THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LI. SATURDAY, JULY 30, 1887. No. 5.

ORIGINAL ARTICLES.

LOCAL TREATMENT OF DISEASES OF THE BRONCHIAL TUBES AND LUNGS.[1]

BY BENJAMIN F. WESTBROOK, M.D.,

PHYSICIAN IN CHIEF TO THE DEPARTMENT OF THROAT AND CHEST DISEASES, ST. MARY'S HOSPITAL, BROOKLYN; PRESIDENT OF THE BROOKLYN PATHOLOGICAL SOCIETY.

THE object of this paper is to describe some of the methods which I have employed in the local treatment of chronic bronchitis, chronic interstitial pneumonia with bronchiectasis, and phthisis pulmonalis, and to give the results which have been obtained.

CHRONIC BRONCHITIS.

This disease has been treated by three principal methods: First, by the direct introduction of coarse spray into the air-passages by means of Sass' spray apparatus; second, by the inhaling apparatus of Dr. George A. Evans; and third, by the pneumatic cabinet.

In the use of the direct spray, the principal indications watched for have been the amount and violence of the cough, the amount and character of the expectoration, and the presence or absence of emphysema and asthma. When the cough is severe and spasmodic, the treatment is usually begun by the use of sedative substances, particularly carbolic acid and the fluid extract of hyoscyamus. In using the carbolic acid our custom is first to spray the air-passages with a solution equivalent to that of Dr. Dobell, the formula is:

℞.—Acid. carbol. cryst. . . . . ♏xx.
Sodii bibor. . . . . ʒiij.
Sodii phosph. . . . . ʒij.
Glycerini . . . . . ʒi.
Aquæ . . . . . ʒvj.—M.

After first cleansing the nasal passages by the use of this spray, the patient is directed to draw out the tongue and take a deep inspiration, during which the spray is thrown into the pharynx, or directly into the larynx by a bent tube, during two or three successive inhalations. A fifty per cent. solution of carbolic acid in glycerine is then added to the fluid in the flask until the point of tolerance of the patient is reached, and, when as strong a solution as can be borne is obtained, the air-passages are sprayed with this five or six times, the patient always inhaling as deeply as possible. If the necessity for it exists, the nasal catarrh is then treated by such application as seems to be indicated. This method of treatment is repeated every day or every other day, as often as is convenient for the patient, no home treatment being employed, though usually some remedies in the way of tonics or alteratives are used internally at the same time.

By this thorough cleansing and disinfecting of the air-passages, combined with the anæsthetic effect of the carbolic acid, the irritation is usually very markedly allayed, so that for twenty-four hours, at least, after the treatment, the cough is diminished in frequency and violence. The method is not always efficacious. It is sometimes necessary to rely, to a great extent, upon sedative drugs, particularly at the outset of the treatment, where the spasmodic character is very well marked.

If the treatment by carbolic acid is inefficient, or if the results come about slowly, fluid extract of hyoscyamus may be either added to or substituted for it, the passages being first cleansed and disinfected by means of the alkaline and carbolic acid solution. A spray of hyoscyamus of the strength of about half a drachm to the ounce is introduced, the application being repeated half a dozen times at each sitting. This solution is particularly efficacious where a tendency to asthma exists.

When there is a very copious secretion of muco-purulent matter, stronger astringents have to be employed. The principal of these are tannic acid, the iron salts, and the fluid extract of pinus canadensis. For the use of tannic acid a standard solution is used as the basis.

℞.—Acidi carbol. cryst. . . . ♏xv.
Glyceriti tan. . . . . ʒijss.
Aquæ menth. pip. . . . ʒvss.—M.

After the preliminary step of cleansing and disinfecting, this solution is sprayed directly into the air-passages. When the patient has become accustomed to its effects by one or two inhalations, glycerite of tannin is added to it until it is as thick as it can be and be capable of producing a spray.[1] This spray is then inhaled five or six times. Its effects are often very salutary, the amount of expectoration decreasing perceptibly after each sitting, though the treatment is immediately followed by an increased expectoration, which lasts for from one to three or four hours.

Of the iron salts, I have most frequently employed the chloride, using a mixture of equal parts of the tincture of chloride of iron and glycerine. This is diluted to about twenty-five per cent. and used in the same way as the tannin. Where great relaxation

[1] Read at the meeting of the American Climatological Society, Baltimore, May 31, 1887.

[1] The addition of only a very small amount of water is necessary to render the glycerite of tannin sufficiently fluid to produce a spray with a pressure of forty to fifty pounds. Five or six drops of water to a fluid-drachm give a good spray, and ten drops to a drachm make it capable of being sprayed at quite a low pressure—*i. e.*, fifteen or twenty pounds.

and an anæmic condition of the mucous membrane exist, it acts better than the tannin solution. A solution of iron alum of the strength of fifteen grains to the ounce may also be used. Pinus canadensis is of service in about the same class of cases as are benefited by tannin, though it has rather more sedative effect than the latter. The preparation usually employed is a mixture of equal parts of Kennedy's white fluid extract and glycerine. The liquid is very heavy and can only be sprayed with a high pressure. To use any of these substances most effectually, it is necessary to have a pressure of from forty to fifty pounds to the square inch. This is obtained by the use of the Crown Gas Engine, manufactured by the National Meter Co., 252 Broadway, New York.

A large tank is connected with the gas engine, which has, by a special contrivance, been converted from a water into an air pump, and the compressed air from the larger reservoir is drawn off into an ordinary office receiver at the convenience of the operator. I usually have a pressure of from fifty to sixty pounds to the square inch in the larger reservoir, and, by means of stopcocks, can regulate the pressure in the small office receiver to which the gas is attached, according to the requirements of the case under treatment. Where the nasal passages are very much inflamed and tender, and particularly where there is stenosis, which increases the friction to a high degree, it is better not to go beyond thirty pounds at the beginning of the treatment; but when the swelling of the turbinated bodies and septum has been sufficiently reduced to admit of the free access of air or spray, the passages can be much more thoroughly cleansed and disinfected if we use a pressure of from forty to fifty pounds.

I think it possible that one cause of the avowed failure of certain gentlemen who have recently written upon this subject, to treat successfully nasal catarrhs with the spray, is to be found in the low pressure which they have employed in the introduction of the spray into the nostrils. The degree of pressure required in a given case can be determined in two ways. In the first place, by the amount of resistance which the spray encounters in passing through the nose. This is quickly shown by the regurgitation of the fluid through the nostril into which it is introduced, and its failure to pass through and out at the opposite side. The second are the sensations of the patient, though the latter generally depend upon the former.

Where the nostrils are sufficiently patulous to admit the spray readily, so that there is little tendency to friction or the development of high pressure in particular localities of the nose, the pain is usually very slight, and a high pressure may be advantageously employed. But where the stenosis is well marked, and the friction consequently very great, there is a tendency for the fluid to accumulate or to be forced violently into the chamber of the antrum, and the pain is sometimes very severe. Under such circumstances the preliminary spraying must be done with a very moderate pressure, and if, even then, the spray does not pass readily through the nostrils, it is better to dilate them by the introduction of cocaine, when no further difficulty of the kind will be experienced. I suspect, however, that the cocaine may to some extent interfere with the therapeutic action of the medicinal agents employed, though it does not, of course, lessen the value of the disinfectants.

In the spraying of the larynx and trachea it is always better to use a very high pressure, and the reasons for this are twofold. In the first place, with the high pressure a very large volume of fluid is introduced in a short space of time, so that in a few seconds an ordinary flask, such as is used in these manipulations, may have its contents half exhausted. And in the second place, the forcible impact against the walls of the mouth and pharynx nebulizes it to such an extent that it is more widely diffused in the respiratory passages. Occasionally a drop of the fluid will form upon the end of the spray tube and fall into the trachea, producing a violent fit of coughing; but, with the high pressure, the time occupied in each introduction of the spray may be so shortened that there is very little danger of this accident.

The advantages to be obtained by this method of treatment over the others to be described later on, are that it occupies very much less time, in consequence of the far larger amount of fluid that can be sprayed into the throat during one or two inhalations, and its better cleansing properties. The forcible introduction of the spray directly into the larynx and trachea gives a much more thorough washing than can be accomplished by the slower methods to be described hereafter.

The treatment of chronic bronchitis by means of the pneumatic cabinet has also been very successful in my hands, as it has in the hands of other gentlemen who have reported their experience with this instrument. The patient is confined in the cabinet under a negative pressure of from two-tenths to five-tenths of an inch. The sitting usually lasts ten minutes, though it may, after the patient has become accustomed to its use, be prolonged to fifteen or twenty minutes. The pneumatic differentiation is accompanied by the inhalation of the spray, for which purpose we employ the "Evans inhaler." The solutions most frequently employed by me are, a twenty per cent. solution of carbolic acid, with borax and glycerine, a solution of the fluid extract of pine needles with iodine, and a combination or mixture of the two solutions in equal parts. When asthmatic breathing is present, the solution of hyoscyamus already referred to is of great value. If much emphysema exists, the cabinet is not indicated. I have never seen any benefit derived from its use in these cases, though I have tried both rarefaction and condensation. The inhalation of the hyoscyamus may relieve the asthmatic breathing, but this may be accomplished just as readily outside the cabinet as in it. In one case a sitting of five minutes in the cabinet developed in a very emphysematous subject, whose breathing was fairly good when he entered the cabinet, a most terrible attack of asthma. The moral effect upon the patient was such that he could never be induced to reënter the box, and promptly transferred himself to the care

of another physician. I have frequently seen it increase the asthmatic breathing temporarily in such subjects, though in others it has produced temporary relief.

The cabinet is particularly valuable in very chronic and intractable cases where the relaxed vessels of the bronchial mucous membrane, though for a time contracted by the action of stimulant applications, soon resume their previous condition of dilatation. The cabinet undoubtedly acts in a twofold manner in these cases: First, as has been pointed out by Dr. Isaac Hull Platt, in a paper read before this Association at its last meeting, by the compression of the bronchial surfaces, and by some alterative effect due, probably, to a combination of the compression with the tonic action upon the vasomotor system of the lungs; secondly, by the action of the spray introduced during treatment. The disadvantage is that, with the spray introduced in this way through the long tube, we do not get the same cleansing effect as can be obtained in the direct method previously described. To obviate this difficulty, I have adopted the practice of first thoroughly cleansing the upper air-passages with the Sass' apparatus before the introduction of the patient into the cabinet.

The apparatus which Dr. George A. Evans introduced to the profession about two years ago has been used in a number of cases with generally satisfactory results. It consists of an ordinary "Wolff" bottle with a glass globe on top, into one side of which is introduced the point of an ordinary spray tube, while from the other emerges a tube for the collection of pulverized spray. It is a modification of the idea of Sales-Giron, and depends upon the principle that when a coarse spray is forcibly thrown against a surface it will be broken up into minute particles and form a fine nebula which will float in the atmosphere several minutes before being precipitated or evaporated. The grosser part of the spray remains in the globe and falls through a tube, back into the "Wolff" bottle, while the more finely nebulized portion is carried off through the tube of exit, from which it is inhaled by the patient. The mouth-piece consists of a hard rubber tube with an opening on one side, the tube held in the mouth of the patient, and the opening on its side covered by his forefinger during inspiration; during expiration the finger is removed so as to allow the breath and spray to pass out through the side opening. The patient is instructed to make deep and slow inspirations, with the idea of securing, as far as possible, voluntary expansion of the chest. The solutions employed have been about the same as those used in the Sass' spray and the pneumatic cabinet.

The advantages claimed by Dr. Evans for his method are that, first, the patient is compelled to make voluntary efforts at deep inspiration during a space of time ranging from half an hour to an hour. By this means a valuable system of pulmonary gymnastics is put into operation. Second, the spray, very finely nebulized, and introduced directly into the air-passages in great volumes, has a better opportunity of diffusing itself in the residual air, and so reaching deeper into the lungs, than it could do under any other circumstances. Third, by means of the fine nebulization much stronger solutions may be employed than with the ordinary coarse spray. For instance, we have frequently employed a thirty per cent. solution of carbolic acid, a strength which could not be tolerated if applied to the air-passages in a liquid form, but which is easily inhaled by any one who is not extraordinarily sensitive.

The first few inhalations of these strong solutions occasion some cough, but this soon passes away, and the patient will continue to inhale for a long time without any further disturbance. At the termination of the sitting, the mouth, pharynx, and larynx, are pretty thoroughly anæsthetized, so that a feeling of numbness exists which lasts for an hour or more. Though the volume of spray as it issues from the tube seems very large, hanging as a cloud in the atmosphere of the room for a long time, still very little of the fluid is used up in its formation, and not enough is carried into the respiratory passages to have ever produced any symptoms of carbolic acid poisoning in the patients upon whom we have used it. As the precipitation of the coarse globules of spray has been thoroughly accomplished before it is introduced into the mouth, no fluid is deposited upon the mucous membranes, but they are simply subject to the mild action of the vapor or spray during the time of the sitting, and the spray itself is all thrown out through the mouth and nose. This method of treatment is particularly useful in cases in which the mucous membranes are extremely sensitive, in those accompanied by violent spasmodic cough, and where the disease is of very long standing, and a prolonged application of the medicinal agent is desirable. Its disadvantage is that, as the spray is introduced by no power except the inspiratory suction, it does not come with sufficient force to the mucous membranes to cleanse them thoroughly. But this objection has been overcome, as in the case of the cabinet patients, by thorough preliminary douching with the spray from the Sass' apparatus. By inhaling through the mouth, and exhaling through the nostrils, medication of the nasal as well as the lower air-passages is obtained.

To get the most satisfactory results by this method it is necessary to employ a high pressure of air. I commonly use a pressure of from fifty to sixty pounds to the square inch. But Dr. Evans, who has a more elaborate apparatus for the compression of air, employs a pressure of seventy to eighty pounds. The advantage consists in the greater volume of spray produced. The inspired air is loaded with it, and during the exhalation it pours from the nostrils in a cloud such as is seen to issue from the nostrils of a horse on a very cold and damp day. Where the membranes are very irritable, and the stronger solutions of carbolic acid are not well borne, a mixture of fluid extract of pine needles with iodine is very serviceable, and, as in the case of the Sass's apparatus, it is frequently combined with an equal portion of a ten or fifteen per cent. solution of carbolic acid. I have also used solutions of tannin with the Evans' inhaler, but the spray is exceedingly disagreeable to the patient, and apt to produce nausea. I have not employed any other astringents with this apparatus.

CHRONIC INTERSTITIAL PNEUMONIA AND BRONCHIECTASIS.

By the local treatment of this affection, three objects are to be accomplished. First, the healing of the bronchial catarrh; second, disinfection of the dilated bronchi; and, third, the restoration of the breathing capacity of such portions of the lung as are not hopelessly degenerated.

The first two objects are best accomplished by the use of the coarse spray or the Evans' inhaler. Each has its advantages, but so far as I am able to judge from my personal experience, the coarse spray is more serviceable.

The third object is to be accomplished through the use of the pneumatic cabinet, or some other apparatus for the inhalation of compressed air.

The method of treatment is first to wash thoroughly and disinfect the nasal and lower respiratory passages with a coarse spray from the Sass' tube. In the treatment of the lower air passages, a high pressure is necessary, so as to give a large volume of spray, and to project it with great force into the respiratory passages. This is at first productive of violent cough, which clears the secretions from the bronchial tubes, after which the spray is deeply inhaled, penetrating, probably, as low as by any other method. After this preliminary washing, the patient is put into the pneumatic cabinet and subjected to a negative pressure of two- or three-tenths of an inch for from fifteen to twenty minutes, while a mild spray is introduced through the tube in order to keep the mucous membrane of the pharynx moist during the treatment. The application of the pneumatic differential pressure in these cases should be made with the greatest care, as there is danger, if the pressure be too great, of producing emphysema of those portions of the diseased lung which are still accessible to air. For this reason, pressures over half an inch should not be employed. The sitting is made rather longer than in the case of chronic bronchitis, because of the necessity for the use of a lower pressure, and with low pressures, as with mild applications of medicinal agents, a more prolonged use is necessary than where the therapeutic agent is of greater power.

By this combined method of treatment, very brilliant results have been achieved in a number of cases which it is not necessary to detail. In some instances, where the cabinet has not been well borne, or where no manifest results were obtained after a fair trial, the Evans inhaler has been substituted for it with very gratifying results. In a few cases no benefit has resulted from any local treatment.

PHTHISIS PULMONALIS.

Aside from the effects of climate, there are no means by which we can obtain so much in the treatment of phthisis pulmonalis as by the use of agents, either physical or chemical, which act directly upon the respiratory organs.

In speaking of these local measures of treatment, I shall confine myself to the three which I have already discussed, namely, the coarse spray, the Evans' inhaler, and pneumatic cabinet. In the selection of a method of treatment for these cases, it is necessary to take account of all the conditions present, because that which benefits one case may be useless or positively injurious in another.

The best results are obtained either in the early stages, when the disease is in its incipient form and no extensive excavation exists, or where the process, though considerably further advanced, is still limited to a comparatively small portion of the lung. The use of sprays is beneficial only in so far as we desire to treat the coincident bronchitis, or where cavities connect with bronchi of the second or third order —*i. e.*, where they are near enough to the trachea to allow of the introduction of a sufficient quantity of the medicinal agent to disinfect them. In deep-seated cavities, and cheesy collections in the smaller bronchi and alveolar spaces, it is questionable whether a sufficient amount of any agent can be introduced through the trachea to have any therapeutic effect. But in large cavities with a free opening into the bronchial tubes, we may, as in the case of bronchiectasis, expect to obtain a certain amount of disinfection. Where naso-pharyngeal catarrhs exist, they should always be treated the same as in chronic bronchitis.

In incipient phthisis accompanied by very little bronchial catarrh, where the cough is accompanied by the expectoration of only a small amount of mucus, local treatment with sprays is of but little avail, and it is not worth our while to spend much time or worry the patient with it. These cases are best treated by the use of compressed air or the pneumatic cabinet, and in a very large proportion of them we may hope to render the disease latent. The action of the positively or relatively compressed air is to expand the lungs, to favor the expectoration of the contents of the smaller tubes and, possibly, of the alveoli, and to modify the intrathoracic circulation, as has been explained by Dr. Platt, and more recently, by Dr. Tiegel in an able article in the *New Yorker Medicinische Presse* for April, 1887.

The sittings should be frequent, every day, or every second day, and the pressure, at first slight, say two-tenths to three-tenths of an inch of the barometer, should be gradually increased to one-half or even three-quarters of an inch. Ten minutes is usually long enough for each sitting, though in some instances where it is well borne we have prolonged it to twenty and even twenty-five minutes. There is a great difference in the ability of patients to bear the differential pressure. Some experience no difficulty in inhaling under a negative pressure of one-half or three-quarters of an inch for fifteen or twenty minutes, and say that they feel much more benefit from the treatment than when it is lighter, but others soon become fatigued under the pressure of more than one-half an inch, and, on emerging from the cabinet, show signs of great exhaustion. I have met three or four cases in which the pneumatic treatment had to be abandoned because of the exhaustion and thoracic pain following its employment. A safe rule to adopt is never to make the pressure so high, or the sitting so long, that it is followed by a feeling of weariness or exhaustion. Used cautiously in this way it is, I believe, the very best method for the local treatment of incipient phthisis, or of

phthisis limited to a small portion of the apex of one or both lungs. When much bronchial catarrh exists in the earlier stages, the introduction of sprays is all important, and the method is precisely the same as for the treatment of chronic bronchitis. After this preliminary treatment, the pneumatic cabinet is used in the way already described.

So far as the introduction of sprays is concerned, the cabinet is not as useful as either of the other methods; for, while the initial expansion of the lung secured by the operation of compressed air is considerable, the subsequent exhalations do not coincide with it, so that, while the patient is in the cabinet and treated by the diminished pressure, though the chest is expanded and the amount of air actually contained in the lungs increased, this increase is rather in the residual than the tidal air. In some experiments conducted by Dr. Platt and myself, we found that a very robust man could exhale more air after a deep inspiration outside the cabinet than in it. While the expansion of the chest was increased by the action of the compressed air, the expiratory contraction was diminished. Of course, this applies only where the rarefaction is continued during the entire sitting, and would not hold good if the patient were made to inspire under diminished pressure and expire under the normal or increased pressure. But after a number of trials, I have not been able to use the cabinet in this way. Mr. Ketchum, the inventor of the cabinet, tells me that he can operate it in this manner, but possibly, from lack of skill in its manipulation, we have not succeeded in doing so.

With the Evans' inhaler in the treatment of the earlier stages of phthisis, my experience is not so great; as the other methods have proved so satisfactory that I do not generally resort to it. Where it has been used, however, the results have generally been very satisfactory. I believe that its efficacy depends, first upon the effects of the spray on the mucous membrane of the air passages, and, second, upon the salutary influence of the prolonged voluntary attempts at deep inspiration on the part of the patient. Under its use the cough and expectoration are markedly diminished, the patient acquires a gradual expansibility of the chest, and the dyspnœa on exertion is markedly diminished. As the natural result of this, the digestion and appetite improve, the sleep is better, and there is a diminution in fever and increase in weight.

The principles involved in the treatment of more advanced cases differ in no respect from those which we apply in the earlier stages, but certain precautions are to be observed, and less is to be expected in the way of a cure. It is possible, however, in many instances, greatly to improve the general health of the patient by diminishing the expectoration, regulating the pulmonary circulation, and increasing the breathing power. Whether anything can be done in the way of disinfection beyond what we have already alluded to, is very doubtful. It would seem, *a priori*, to be impossible to introduce enough of any antiseptic into the lungs to destroy the caseous foci, disinfect the infiltrated tissues in the neighborhood of the avenues of entrance, and leave enough to prevent a reformation of bacilli during the intervals between sittings. To my mind, the only way in which the progress of the tubercular invasion can be arrested is by so improving the nutrition of the tissues of the lung as to render them immune to the disease. We know that in the case of tuberculosis, as of other infectious and septic diseases, it is only a certain proportion of those who are exposed to the infection who contract the malady. Not every patient who is operated upon under circumstances which expose him to septic infection contracts pyæmia or septicæmia, and antiseptic surgery is for the benefit of those who are vulnerable. It need not be applied in every case if we had the means of knowing which were susceptible and which were not. So, in the case of tuberculosis, it is only those whose tissues are susceptible to the disease who contract it. And when the disease is present, in the absence of any means for thoroughly destroying the bacilli which already inhabit the lungs, our only resource is to endeavor to render the remainder of the pulmonary tissue invulnerable to their attacks.

In the treatment of advanced cases our first aim should be to cure the bronchitis, or so to diminish it as to lessen greatly the expectoration and the cough. This being done, the pneumatic treatment should be carefully applied, in order to get a better expansion and improved circulation, and an alteration of the action of the trophic nerves. The coarse spray, of course, accomplishes but one of these subjects, while the pneumatic cabinet and the Evans' inhaler act in both ways. If the cabinet is used, the patient should first be treated locally with the coarse spray, and, after thorough cleansing, the entire respiratory tract should be subjected to a moderate negative pressure, with the introduction of some unirritating spray.

After the employment of a number of different formulæ, it has seemed to me and my two colleagues, Dr. I. H. Platt and Dr. A. H. Buckmaster, that as good results were obtained by the use of a simple alkaline and carbolized solution, as with any of the others; though, in some instances where great irritability is present, a pine needle extract or the fluid extract of hyoscyamus has done better. We used, for some time, a solution of the bichloride of mercury in the strength of 1 to 1000, but it was not as pleasant to the patient as were the others mentioned, and there was no apparent difference in their therapeutic effects, or, if any, it was in favor of the other solutions. Many other formulæ have been used and advised by other observers, but the active principles of all are similar, and as those that we had used acted satisfactorily, it was not thought worth while to multiply them, as no opinion of any value could be formed in regard to the efficacy of any one agent, unless it were used for a long time and in a large number of cases.

Though the effects of the cabinet have been very satisfactory in cases which were not too far advanced, I think that, on the whole, we have been better pleased with the Evans inhaler. This apparatus has the advantage of being very easily employed. It does not alarm the patient, nor does it fatigue him as much as the cabinet. Of course, if the patient is

very ambitious, and exerts himself to inspire as deeply as possible for a long time, he may soon become exhausted. But when the cases are well advanced, and the patients greatly debilitated by disease, we do not at first urge them to make any great effort at expansion, but simply allow them to hold the tube in the mouth and breathe comfortably. As they become accustomed to its use, they inhale more deeply, the respiratory muscles are gradually strengthened by exercise, and they may finally become able to make a very effective use of the instrument. We have not employed the local treatment alone in any cases of advanced phthisis with extensive destruction of the lung, hectic fever, and copious night-sweats, but have always felt obliged to use other internal medication; so that it is impossible to say, in any given case, to what extent the improvement which has occurred is due to any one of the means employed, but it would appear that the use of these local measures is a valuable addition to our ordinary therapeutic resources.

It is particularly important, in using the pneumatic cabinet on this class of patients, not to make the pressure too high, as it appears from our observation that, where portions of the lung are contracting, no matter how strong a pressure is used, the contraction is not overcome, and any dilatation of the chest which is accomplished is at the expense of the non-infiltrated portions. In one instance the contraction of the lung, which was only apparent above the third rib on the left side at the beginning of treatment, extended, in spite of the daily application of the cabinet, so that, after the lapse of six weeks, it had progressed below the nipple and the anterior border had so far retracted that the cardiac pulsations could be felt over the entire precordial region, from the second intercostal space to the apex. Where this contraction goes on in spite of the judicious use of the cabinet, we may conclude that the instrument is doing no good, and it is as well to resort to other methods of treatment.

We have been somewhat surprised to see tabulated in some of the reports on the use of the pneumatic cabinet, cases of acute phthisis in which cures had been effected. It has been our experience that the more acute the disease, the more rapid its onset, the higher the fever, and the greater and more progressive the emaciation, the less can be accomplished, not only by this, but by any other method of treatment. Indeed, we are unable to report any case which we have diagnosticated as acute phthisis, on which local treatment has had any effect whatever. The patients are generally very weak, feverish, and irritable, and the application of these local measures simply exhausts them.

I would say, in closing, that the success of the local treatment is largely dependent upon the constitutional condition of the patient. Some, who appeared to have a very trifling amount of local disease have gone down very rapidly in spite of all that we could do. This has been particularly observed in alcoholic subjects. In one instance, that of a man twenty-eight years old, engaged in the retail liquor business, whose pulmonary difficulty was limited to the upper half of one upper lobe, and consisted largely of solidification without much apparent excavation, and where good results were confidently expected, treatment was found to be very exhausting, and, in spite of the greatest care, the patient rapidly declined. I have been told by Dr. Jacob Fuhs, through whose courtesy we had the opportunity of seeing him, that he subsequently developed a myelitis followed by paraplegia and rapid dissolution. On the other hand, there have been cases where the disease seemed very far advanced, and extended over a considerable portion of both lungs, which have done well from the start, sometimes very much to our surprise. The difference is undoubtedly dependent upon the constitutional resistance of the patient, and we desire particularly to call attention to this fact, in order to illustrate the principle that it is not well either to abandon any case because of its apparently desperate nature, or to base too hopeful a prognosis upon the slight extent of the local lesion.

174 CHRISTIAN STREET, BROOKLYN, N. Y.

CYCLIC ALBUMINURIA.[1]

BY WILLIAM BUCKINGHAM CANFIELD, M.D.,
CHIEF OF THROAT AND CHEST CLINIC AND LECTURER ON NORMAL HISTOLOGY, UNIVERSITY OF MARYLAND; MEDICAL EXAMINER FOR THE MANHATTAN LIFE INSURANCE COMPANY.

THE interest and importance of this subject are the only excuse that can be offered for bringing such a hackneyed theme before the Academy. The presence or absence of albumen in the urine has been and probably always will be a matter of more or less grave importance to the practitioner, whether in examining for life insurance or in other practice. So-called "physiological albuminuria" had been suspected for some time by early investigators, but not until recently have decided views been expressed.

Sir William Gull,[2] in 1873, and Dr. Moxon,[3] in 1878, called attention to the frequent occurrence of albuminuria in youths and young persons. In these cases, however, it was temporary, passing off after a short time. Leube[4] and Fürbringer[5] made more extensive investigations which were of decided value. Leube examined the urine of 119 soldiers and found albumen in the morning urine of 5, and (after a march) in the afternoon urine of 19, and no albumen at night; about 4 per cent. had albuminous urine in the morning, and 12 per cent. in the afternoon. In no case was the amount of albumen over 0.1 per cent., and there was also no sign of blood, neither hæmaturia nor hæmoglobinuria, nor of casts, and only occasionally uric acid crystals present. The specific gravity was always between 1.013 and 1.022. Fürbringer examined the urine of 61 children and found albumen in 7 cases, or about 11 per cent. Others have found passing albuminuria after a cold bath or active muscular exercise. Mahomed[6] found in 77 persons who came up within 12 months for life insurance examination, albumen in 12 cases,

[1] Read before the Baltimore Academy of Medicine, May 31, 1887.
[2] Sir William Gull: Trans. Roy. Medico-Chirurg. Soc., 1874.
[3] Moxon: Guy's Hospital Reports, 1878.
[4] Leube: Virch. Archiv, 1878.
[5] Fürbringer: Zeitschrift f. klin. Med., 1879, p. 340.
[6] Mahomed: Guy's Hospital Reports, 1884.

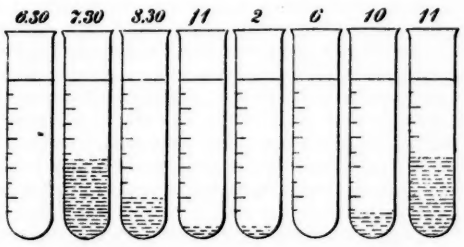
or 15.5 per cent. These cases were only examined once and in the forenoon. He feels confident that we can have albuminuria with healthy kidneys, although he lays, and with justice too, great stress upon the necessity of examining the condition of the vascular system.

Pavy[1] was probably the first to describe the cyclic character of this albuminuria. He noticed that the condition of one day was repeated with more or less exactness the next. V. Noorden[2] and Bull,[3] of Christiania, also report similar cases.

In Leyden's clinic in Berlin, a young man, a student, was found to have albumen in his urine. An assistant, Dr. Klemperer,[4] suspecting cyclic albuminuria, examined the urine day after day, taking specimens from eight different hours in the day. The patient passed his water at 6.30, 7.30, 8.30, and 11 A.M., and 2, 6, 10, and 11 P.M., taking care to empty the bladder entirely each time. The examination extended over a period of three months, and as the urine was tested under different circumstances and as the student was a very willing subject, the results are interesting. Klemperer followed a method which, as he says, lays no claim to scientific exactness, but still is of great use for clinical comparison. He graduated a series of test-tubes into c.cm., and took from each specimen of urine 5 c.cm. (31¼), and boiling it in the test-tube, added 2 to 3 drops of nitric acid, letting the tube stand and when the precipitated albumen fell to the bottom of the tube the height was read off and registered.[5]

The results are graphically represented in Fig. 1, which shows the amount present through the day

FIG. 1.



when the student followed his daily avocation in the ordinary routine of lectures, meals, exercise. He generally awoke at 6, arose at 7.30 and drank a cup of coffee, and at 11 took breakfast. In the morning he was either at home or attending lectures. At 1 P.M. he took dinner, at 4 he drank coffee and at 8.30 supper. He generally took a walk between 4 and 6 P.M., and usually remained at home in the evening. The urine which he passed on waking was free from albumen; that passed on dressing and undressing (7.30 A.M. and 11 P.M.) contained the most. From 11 A.M. to 6 P.M. he passed the least. There seems to be a fall in the morning and a rise in the evening.

When he remained in bed one hour longer than usual the urine passed at 7.30 A.M. was free from albumen, while that passed at 8.30 contained the most. On one occasion he remained in bed until noon, and then the morning urine was entirely free from albumen, and even at 2 P.M. there was only a trace, showing the influence of rest on the albumen.

Again, after he had spent the morning working as usual, he went to bed at 12 noon, and, except for a trace of albumen observed at 6 P.M., the afternoon urine was entirely free. At several different times he remained in bed the whole day, and in every instance the urine was found to be entirely free from albumen. Finally, he spent one entire day in working especially industriously at his books, not going out to lectures nor for exercise, and the albumen was present in his urine all day with a maximum at 11 P.M., thus showing the influence of mental exercise.

Nothing else pathological was found in the urine, which was in every case clear, transparent, acid, with a specific gravity of 1.005 to 1.020. The daily amount passed was 1500 to 1800 c.cm. (40 to 50 ounces). All sediment, even oxalate of lime, was absent. No sugar was present. He spent the summer in Switzerland, and the next winter returned to Berlin, having gained in weight. Examination of the urine showed a less amount of albumen which, however, still retained its cyclic manner of appearance.

While under observation the patient varied his diet, some days taking milk alone and again only meat, and all without any influence upon the amount of albumen. As an invariable consequence of resting the urine was always free from albumen.

The following case recently came under my care. F. H., aged thirty-two, stout, little color, married. He does not complain of being unwell, although his position as druggist keeps him very much confined, from 7 A.M. to 12 midnight. He gave no history of gout, rheumatism, nephritis, or syphilis, but had had intermittent fever. Examination of the heart and radial pulse showed nothing abnormal. He saw very well. He applied about eighteen months to two years ago for admittance to a life insurance company, and was much surprised to find that he was rejected on account of albumen in his urine. He was told he would die in a few months, and was naturally much frightened, although at the time he felt very well and had a good appetite. He consulted many physicians, and took different things, changing his diet with each physician, and examining his urine himself very carefully, as he had abundant opportunity of doing. He noticed, as time went on, no great change; now there would be less albumen, now more, and occasionally none. In one of these happy, non-albuminuric intervals he again applied for life insurance, but unfortunately for him, by the time the examiner reached him albumen had again appeared in his urine.

He gradually became accustomed to his position,

[1] Pavy: Lancet, 1885, p. 706.
[2] V. Noorden: Deutsches Archiv f. klin. Med., Bd. 38.
[3] Bull: Berliner klin. Wochenschrift, 1886, No. 42.
[4] Klemperer: Archiv f. klin. Med., Bd. xii.
[5] To estimate approximately the amount of albumen present, we may say that when 2 to 3 per cent. of albumen is present, the whole fluid is coagulated; 1 per cent., the coagulum reaches one half way up; 0.5 per cent., one-third way up; 0.1 per cent., one-tenth way up; 0.05 per cent., barely fills the curved part of the test-tube; when less than 0.01 per cent., there is a slight cloudiness but no precipitate.

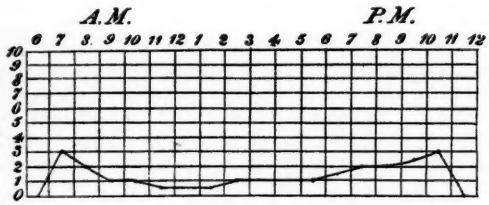
and now seems to be thriving under it, having gained in weight since last year. I have examined his urine at different times and under different circumstances in the past few months, and have rarely failed to find albumen. For the sake of comparison I have followed the method employed by Klemperer, not, however, neglecting to test the urine with other reagents.

The amount passed per day was about thirty to forty ounces in cold weather; it was acid at every test, and the specific gravity (taken at every test) ranged between 1.019 and 1.031. Examination of the sediment microscopically showed only oxalate of lime and uric acid crystals, and no casts. He also informed me that none of his attending physicians had ever found casts. The specific gravity reached 1.030 and 1.031 on a few occasions, and then the albumen was most abundant.

In using the layer test of Heller I was occasionally struck with the intense color of the ring of urates above the acid, and have since had my attention called to a statement of Dr. Sedgwick Saunders, who, in making tests for Ralfe,[1] noticed that on the days when the albumen was most abundant, the specific gravity was above the normal, whilst the ring of urates which formed just above the cold nitric acid on which the urine was floated, when the albumen was most abundant, was always intensely colored by the oxidized pigment of the urine.

Unfortunately I was unable to get specimens of urine at stated hours from my patient, as Dr. Klemperer did from his, still I found him ever ready to assist me in saving the urine in bottles, and in carefully noting the hour. The result of an ordinary day's work on the excretion of albumen was much the same as in the preceding case. On one day he did not go to work until 2 P.M., and arose that morning at 8, two hours later than usual. He awoke at 5, and passed a non-albuminous urine; at 8.15 he arose and dressed, and at 2 P.M. he went to the store. The amount of albumen shows a tendency to increase toward evening. He feels very well

FIG. 2.



Shows the average daily amount of albumen passed for each hour.

and cheerful, and his only desire is to have his life insured.

Without going into the pathology of this disease, it is evident that rest and work play an important part in its etiology. The most generally accepted theory is that some change in the epithelium covering the glomerular vessels allows the albumen to pass through into the urine—a condition which the normal epithelium prevents. An extended and careful observation can alone give a decided diagnosis. I have used the heat test, the nitric acid test, nitric acid and heat, picric acid, and the nitric-magnesian test of Roberts, and I think that no one should be satisfied with a single test.

As for the prognosis, Leube, Fürbringer, Moxon, and Mahomed would no doubt be in favor of insuring persons with cyclic albuminuria, while Johnson,[1] and others, hesitate, and seem to think that such cases probably end in some form of nephritis. Dr. Munn,[2] as Medical Director of the United States Life Insurance Company of New York, finding that nearly ten per cent. of all deaths of policy-holders in his company occurred from some form of Bright's disease, made an extensive examination of the urine of all applicants from 1877 to 1880. He used the heat and nitric acid test, holding the test-tube containing the urine before a reflected light. He lays great stress upon the care with which the urine should be examined—*i.e.*, acidified, if alkaline, and allowed to stand a sufficient length of time after the addition of the acid. In following up the histories of the rejected cases, he found, in 1880, that four had died out of sixty-nine, and the general health of those who had been under observation for more than one year was gradually deteriorating, and for this reason he was inclined to regard albuminuria as of grave significance.

Without attempting to draw any inference from these cases, I think one or two points deserve notice. When a urinary examination is to be made, the applicant for life insurance should bring specimens passed in the forenoon and afternoon as well as at night. If albumen be present, a sufficient number of examinations should be made before a diagnosis between a nephritis and cyclic albuminuria be made. In every case a microscopic examination should be made, as casts may be present when albumen is absent. Of course, so-called accidental albuminuria, due to gonorrhœal pus, or to some inflammation in the ureters or bladder, should not be mistaken for Bright's disease.

Treatment seems to have little or no influence upon this form of albuminuria. Ralfe seems to think that time alone, and not drugs, will cure it. Saundby,[3] also, admits that he could never cure one of these cases. My patient is at present taking iron in the form of the tincture of the chloride, but at the time the above test was made all medicine was purposely withheld.

1010 NORTH CHARLES STREET, BALTIMORE.

[1] Ralfe: British Medical Journal, November 27, 1886.

[1] George Johnson: British Medical Journal, 1879, II.
[2] John Munn: Medical Investigations in Life Insurance.
[3] Saundby: British Medical Journal, November 27, 1886.

WAKING NUMBNESS.

BY C. L. DODGE, M.D.,
OF KINGSTON, N. Y.

THE MEDICAL NEWS, of June 4, 1887, called attention, editorially, to an article by Dr. Andrew H. Smith, of New York, in the April number of *The*

American Journal of the Medical Sciences, where he describes a curious neurosis characterized by numbness on waking, either general or confined to the distribution of the ulnar nerves. I wish to add two cases to Dr. Smith's collection, as this certainly is a very rare affection.

CASE I.—Twenty years ago, a lady, thirty-eight years of age, consulted my preceptor for a peculiar numbness and tingling sensation in the left arm, extending to the tips of the little finger and the ulnar side of the ring finger. She was quite alarmed about it, and imagined it was commencing paralysis or something of that kind. She herself attributed it to overwork and a strain of the back. She was advised rest, friction, and tonics, and she improved, but has been subject to these night attacks (they never occur at any other time) ever since, though free from them for weeks at a time.

The most singular circumstance about the second case is that the gentleman affected in this peculiar way is a son of the lady mentioned above.

CASE II.—A gentleman in good health, thirty-three years of age, actively engaged in professional work, has, for over twelve years, experienced these same numb, tingling sensations, *occasionally* on waking out of a sound sleep; in his case the sensation exactly resembled that which results from pressure upon a nerve, and which we commonly speak of as the foot being asleep. Motion, sensation, and the tactile sense were entirely unaffected, although the arm felt heavy and dead, as he expressed it. It sometimes happens on one side and then on the other, but he is positive that it is not caused by pressure upon the nerves. The peculiar sensation does not last over a minute and never recurs again the same night. He also told me that it once happened to him some years ago, in the daytime, when he fell asleep in a chair, and at that time he was in such a position that no pressure could have been made upon the nerves. In his case the numbness never extends above the shoulder and rarely above the elbow. It appears to commence in the extremities of the fingers and extend up the arm.

Dr. Smith says, "from a study of these cases it is apparent that the numbness is something added to the normal condition, while nothing is subtracted from it. It is a purely subjective condition. Doubtless the conditions upon which the numbness depends are present during sleep, but the sensation is not sufficiently strong to arouse the sleeper, and he first becomes conscious of it when awakened by some other cause." The cause of this condition Dr. Smith thinks, is probably central, since the effect is usually symmetrical. One of his cases, however, and both of mine, were affected in one arm only.

I am inclined to think that sexual excesses bear a causative relation to this condition. At least, in Case II. the gentleman admitted that he thought he experienced the sensation more frequently when given to excesses of this kind.

As to treatment, I advised him to take more outdoor exercise, to be temperate in all things, and apply friction to the parts. I also prescribed tonics to improve the general health.

MEDICAL PROGRESS.

ARTIFICIAL FOODS FOR INFANT FEEDING.—DR. EDGAR EVERHART, Chemist to the University of Texas, reported as follows to the State Scientific Association, on the analysis of the foods most commonly sold for infants:

1. No infant food, as now sold, can be made up, either with or without the addition of cow's milk, so as to produce a liquid having as great an amount of total solids (13.75 per cent.) as are in woman's milk, unless indeed such total solids consist of such an injurious substance as starch, or the casein of cow's milk.

2. Not one of these infant foods is composed of nitrogenous matter that is as easy of digestion as is that of woman's milk. The chief source of such nitrogenous matter is cow's milk, and not the foods themselves. The fact that starchy matter prevents the formation of clots in cow's milk, is no reason for introducing a still more indigestible substance in a child's stomach than would be the clots themselves. Besides, the formation of a clot is not the only reason of the greater indigestibility of casein.

3. The percentage of fat is uniformly too low for the requirements of the infant organism.

4. Because the soluble carbohydrates, even when present in large amounts, are different in chemical properties, and most likely also in physiological, from the milk sugar contained in woman's milk.

5. Chiefly because the great majority of infant foods introduce a substance into the stomach of the child which is never found in woman's milk, and which we know by direct proof cannot be assimilated by the digestive system of an infant.

6. In those cases where there is an approximation to woman's milk, this approximation is due to the use of cow's milk. The use of such foods as Liebig's is not so objectionable as the farinaceous; they are only useless, because their only function practically is to increase the percentage of the carbohydrates. This increase can be as well and more cheaply made by the addition of a little ordinary sugar, or, still better, by milk sugar. The addition of Liebig's food does not change the character of the nitrogenous matter of cow's milk, either before or after it is taken into the stomach.

COLORED GAUZE AS USED IN LISTER'S WARDS.—DR. SENN writes of a visit to Lister's wards as follows: "The only thing that was new to me in the way of dressing wounds was the colored gauze, which is used to distinguish it from gauze not rendered aseptic. Great importance is placed upon the disappearance of color on the surface of the gauze, as an indication that the secretions from the wound have reached the surface, an occurrence which is looked upon as a necessity for a change of dressing. A number of lumbar abscesses were shown which had been simply incised and drained, and where the whole dressing was composed of a very thin and small compress of gauze and a layer of absorbent cotton still smaller than the gauze compress."—*Journal American Medical Association*, June 4, 1887.

WHEN CAN DIPHTHERIA BE DIAGNOSTICATED?—SIMON, of Paris, in an article in *Le Progrès Médicale*, of June 4, 1887, writes as follows: "Supposing that your

first visit has been made in the morning, return the same evening; and if you can define a small whitish pellicle which, beginning at the first point in the throat which was affected, has spread until, like a spider's web, it is about to attach itself to the opposite side of the throat, and if, above all, the *velum palati* is implicated, do not hesitate to affirm that diphtheria is present."

HYDROCHLORIC ACID AND LAUDANUM FOR CHOLERA INFANTUM.—HENOCH has used successfully the following:

Sweetened water . . .	a teaspoonful.
Laudanum (Sydenham's) .	½ to 2 drops.
Dilute hydrochloric acid .	2 drops.

This dose may be repeated several times daily, as indicated.—*Revue Générale de Clinique*, June 23, 1887.

AN APPLICATION FOR FRECKLES.—

Fresh milk	ʒ 12½.
Glycerine	ʒ 7½.
Acid. hydrochloric. dil. . . .	♏ 75.
Hydrochlorate of ammonia . .	ʒ 1.

Dissolve.

Touch the freckles with a brush dipped in the solution morning and evening.—*Journal de Médecine*, June 5, 1887.

THE TREATMENT OF "HEAT-STROKE" IN THE ENGLISH ARMY.—SURGEON G. DOUGLASS HUNTER describes the following treatment which he used successfully among the English troops in the tropics:

Treatment must be immediate and thorough. The patient should be stripped and laid in the coolest place possible—in the shade outside is best—and cold water dashed on the head and spine; this should be maintained; a large enema administered, and the lower bowel well emptied. If the patient regains consciousness, he may then be placed on his bed (if the temperature remains high) in a wet pack, and ice kept to his head. Five grains of calomel may then be administered, and diaphoretics given frequently. To promote free action of the skin and maintain the action of the bowels is very needful. If a relapse threatens, douching should be at once resorted to. If there are no signs of rallying, use sinapisms to the heart, frequent douching, ice to head and spine, friction of the limbs; if the pulse is failing, brandy at frequent intervals in small doses and brandy enemata. If respiration is failing, artificial respiration should be employed and well kept up. On no account give up every attempt until life is quite extinct. On no account bleed the patient. The after-treatment is to maintain free action of the skin and bowels—tonics and change of air to a temperate climate.

The essence of treatment is to reduce the bodily temperature as speedily as possible, and the surest way to do this is by the application of cold water and ice; this should be maintained, and the least relapse dealt vigorously with in the same way. Immediate action of the bowels by enemata is very necessary, and an emetic is beneficial in suitable cases.—*British Medical Journal*, July 9, 1887.

A NEW HYPNOTIC.—At the recent meeting of the Society of Neurologists and Alienists of Southwestern Germany, held at Strassburg, VON MERING reported his use of amylen-hydrat, or tertiary-amyl-alcohol, in 60 cases. The drug was administered 250 times to patients suffering from mental and nervous disorders. Its dose ranges from 30 to 75 minims; sleep so produced lasted from six to eight hours, and no ill after-effects followed. Its taste is more agreeable than that of paraldehyde. It was given in the following mixture, which was well shaken before taken:

Amylen hydrat.	ʒ 1.
Aq. dest.	ʒ 10.
Ext. liquritiæ	ʒ 1.

—*Deutsche medicinische Wochenschrift*, June 23, 1887.

TREATMENT OF PERIHEPATIC TUBERCULAR ABSCESS.—LANNELONGUE, in a paper read recently before the Academy of Sciences at Paris, recommended

1. Simple incision and thorough disinfection and drainage of such abscesses when readily accessible.

2. The resection of the lower ribs to the sixth or seventh whenever necessary to secure free access in treating abscesses upon the convexity of the liver, hepatic abscesses proper, and hydatid cysts subdiaphragmatic.—*Gazette Hebdomadaire*, June 10, 1887.

ASTHMA THERAPEUTICS.—LAZARUS, of Berlin, is quoted as follows by the *Journal of Laryngology* for May, 1887:

1. The prophylaxis of bronchial asthma requires a report of the hereditary and constitutional conditions present, and especially of the condition of the mucous membrane of the nose and throat.

2. The asthmatic attack must be suppressed as soon as possible. The best medicament for this purpose is iodide of potassium and chloral. In special cases operative treatment of the nose and naso-pharynx is recommended.

3. The treatment of the secondary affections is the more important in that they may become causes of recurrence of the asthma. For these conditions the best treatment is the pneumatic chamber. In chronic catarrhal conditions of the bronchi the best treatment is turpentine and iodide of potassium.

TUBERCULOUS CONTAGION CONVEYED BY THE MEAT OF FOWLS.—LAMALLERÉE recently reported to the Paris Academy of Sciences a case where a phthisical husband conveyed tubercular contagion to his wife, who, after his death, developed pulmonary tuberculosis. She sold fowls to a neighbor, with whom she had no other association. The flesh of these fowls was eaten underdone, and the neighbor, after consuming eleven of these chickens, showed tubercular pulmonary disease.

Examination of a fowl showed the presence of tubercle and bacilli. The expectoration of the owner of the chickens had been profuse, and the fowls had eaten the sputa.—*Semaine Médicale.*

A CONVENIENT FORMULA FOR OIL OF WINTERGREEN.—Much difficulty has been reported in finding an eligible mixture containing oil of wintergreen, so

valuable in acute rheumatism, and also employed in other affections. The following may be commended:

℞.—Olei gaultheriæ . . . . . ♏clx.
Mucilag. acaciæ . . . . . fʒij.
Glycerinæ,
Aquæ . . . . . āā fʒj.
M.—Sig. Dose, one to two teaspoonfuls, as may be required.—*Pharmaceutical Record*, June 15, 1887,

BARIUM CHLORIDE IN VASCULAR DISEASES.—KOBERT, of Dorpat, Russia, writes as follows in the *Therapeutic Gazette* of June 15, 1887: The best application for dilated cutaneous veins (for example, on the legs) is the following:

℞.—Barii chloridi . . . . . gr. xxx.
Dissolve in distilled water and mix thoroughly
Lanolini . . . . . ʒ iij ¼.
Olei amygdalarum dulc. . . . ♏lxxv. M.
F. Unguentum.
Sig.—Three times daily, with friction, whenever dilated blue veins shine through the skin.

Barium chloride can also be used hypodermatically in place of substances of the digitalis group, in cases of heart-disease where help is demanded so soon that remedies given internally are not available.

THE ODORS OF INFECTIOUS DISEASES.—DR. NIVEN writes as follows on this point, in an article on fevers in the *Medical Chronicle* for June, 1887:

It is a fact of some interest, at all events from a diagnostic point of view, that some of the infectious diseases possess special odors. The only odor, besides that of rheumatic fever, I have seen any mention of in literature is that of typhus fever, which is of a peculiarly heavy and offensive nature, and has been likened to the smell of rotten straw. It is quite characteristic, and is obviously not the result of filth, since it is present in the cleanliest people who have contracted the disease. It is evidently some special product of the virus of the disease, or of the tissues under its influence.

It is doubtful whether the same thing can be said of the disgusting and peculiar odor of smallpox, which occurs only in the worst cases, and is of the gravest omen. It is not present in cases which do well, even where the body is covered with scabs, and it therefore probably means merely necrosis of the tissues, and a ptomaïne generated in that process.

Some six years ago I made a minute study of scarlet fever, and I was very much struck by a peculiar sweet odor of the breath, almost aromatic in character, which, though far from unpleasant in itself, is rendered unpleasant by its associations. I also observed that this odor is most marked in the early stages of the disease. That this is no mere imagination will be clear when I mention that a nurse to whom I pointed this out, diagnosticated the occurrence of scarlet fever in a smallpox patient at the height of the smallpox, a whole day before any other symptoms of scarlet fever appeared, simply from the peculiar scarlatinal odor of the breath, and I have myself on several occasions been able to diagnosticate scarlet fever in this way before the appearance of the rash. This smell is sometimes excessively strong, especially in cases of what I should call toxic scarlet fever, where the throat is but little affected, the rash is discrete and dark, and there is much delirium. It is then like a powerful and heavy ether.

The same peculiar and sweet odor is fairly often to be observed in the breath in cases of typhoid fever, but never attains the penetrating and powerful character that it does in certain cases of scarlet fever. I have not been able to distinguish between the odors of typhoid and scarlet fever.

Measles also has a smell of its own, somewhat resembling that of scarlet fever, but quite distinguishable.

THE TREATMENT OF LARYNGEAL PHTHISIS.—MASSEI, of Naples, reports the results of his study and practice in laryngeal phthisis as follows:

1. We are still in want of some remedy, or remedies, to effect the cure of laryngeal phthisis.

2. Notwithstanding this want, the local (palliative) treatment of the disease is incumbent upon every physician.

3. Many of the cases quoted by various writers are of an extremely hypothetical nature, inasmuch as they have not been a sufficient time under observation.

4. Cocaine, iodoform, iodol, and sublimate are perhaps the best of all local remedies. Lactic acid, even by submucous injection, does not appear to have led to favorable results.—*Journal of Laryngology*, May, 1887.

CORROSIVE SUBLIMATE AND UREA IN SYPHILIS.—SCHUTZ has employed the following formula:

Aquæ destillat. . . . . ʒ 3⅛.
Hydrarg. bichlorid. . . . . gr. 15.
Ureæ . . . . . gr. 3½.

The amount of urea may be increased to eight grains. Fifteen minims daily should be given by hypodermatic injection. Twenty-six cases have recovered under this treatment, which acts more easily, promptly, and with less pain than do injections of other combinations.—*Journal de Médecine*, June 5, 1887.

FIFTEEN OPERATIONS UPON THE PREGNANT UTERUS.—HOFMEIER, of Schröder's Clinic, in Berlin, reported fifteen operations at the recent German Surgical Congress, whose results were as follows: Seven were cases of pregnancy complicated by carcinoma uteri, for which five supravaginal and two total extirpations were done; there were six cases of fibroma, and two Cæsarean sections. The mortality was two—one after supravaginal, and one after total uterine extirpation. Four cases were followed by abortion and return of the original lesion; and for one of these, in a woman the second time pregnant, a total extirpation was done. Fibromata were removed from the uterus twice—once at the end of pregnancy, once at five months. No difficulty was experienced in operating. After the elastic hæmostatic bandage was applied, the uterine wound was closed by étage sutures, and the peritoneum was carefully stitched over the incision with catgut. No hemorrhage came from a stump so sutured; it was replaced in the abdomen.—*Berliner klinische Wochenschrift*, May 30, 1887.

BACTERIA IN INTESTINAL DISEASE.—ESCHERICH, of Munich, in an exhaustive article in the *Centralblatt für Bacteriologie*, No. 24, concludes as follows:

Our knowledge of intestinal bacteria has made little

advance because of our ignorance of the bacteria found in normal intestines, and our lack of differentiation as to pathogenic and non-pathogenic bacteria.

Our efforts are at present confined to attempts to sterilize food, and we have as yet few researches upon the nature of intestinal bacilli themselves. The line of progress lies in this direction, and it is more than probable that analysis will separate cholera infantum into several diseases closely allied in nature and causation.

A SUCCESSFUL CASE OF EXTIRPATION OF THE LARYNX.—At a recent meeting of the French Society of Otology and Laryngology FAUVEL exhibited a patient, on whom Péan had, in 1885, performed extirpation of the larynx, leaving only the epiglottis and part of the arytenoid cartilages. The patient had resumed his occupation; he succeeded in making himself understood in a feeble, guttural sound, but in words formed by the mouth and lips; this voice, deficient in quality, was audible at a moderate distance. No appliance to improve his voice had been successful. The diagnosis before operation lay between epithelioma and syphilis.—*Revue de Largyngologie*, June, 1887.

A FORMULA FOR THE USE OF HYOSCINE AS A HYPNOTIC.—DR. DORSET, of the State Insane Asylum of Texas, has found the following of benefit:

Hyoscine hydrobromate . . .	$\frac{1}{50}$ gr.
Paraldehyde,	
Oil of almonds	āā ʒ 2.
Chloroform	♏ 10.
Oil of cinnamon	♏ 2.—M.

The medicine given at bed-time, in drachm doses, in a great number of cases, is all that is necessary to secure a quiet, refreshing night's rest. The patients are not so nervous the next morning, and are ready to take a good breakfast.—*Texas Courier Record*, June, 1887.

THE TREATMENT OF PULMONARY PHTHISIS BY LARD WITH MILK.—DR. N. AKIMENKO, of Professor V. G. Lashkevitch's clinic, in Kharkov, writes that, having many a time heard of excellent services obtained by the Russian peasantry from treating various wasting chest diseases by the internal use of lard with milk, he resolved at last to give a fair trial to that popular remedy in several cases of early pulmonary phthisis. In all the cases the affection was diagnosticated on the ground of Koch's microbe being present in the patient's sputa. The method was practised in the following way: he took the fat from the omentum and mesenterium of a recently killed pig, soaked it for twenty-four hours in cold water, then picked out all connective tissue, and boiled from a quarter to a third of a pound of the fat with three glassfuls of unskimmed milk on a slow fire, for three or four hours, until about two glassfuls of fluid were obtained. The latter was then strained through a piece of muslin, and cooled down to be administered (after duly shaking) to the patient, the dose being at first one quarter or half a glassful three times a day; but by the end of a second week as many as three glassfuls a day. The results obtained were these: (1) The patients' weight invariably increased (in one of the cases the patient gained nine and a half pounds in thirty-three days). (2) Cough and expectoration were alleviated, while the quantity of sputum considerably lessened. (3) The appetite always improved. Such patients in whom the loss of appetite had formerly amounted to a complete aversion from meat, after the treatment of two or three weeks' duration, requested me to allow them an additional meat-dish. (4) The patients took the lard emulsions with pleasure; no digestive disturbances were ever observed. Pointing to his results, Dr. Akimenko recommends his professional brethren to try the lard treatment in phthisis, especially in such cases where cod-liver oil cannot be employed on account of its "verily disgusting taste," or in consequence of its causing gastric disturbances.—*Provincial Medical Journal*, June 1, 1887.

A STIMULANT INHALATION.—

℞.—Essenc. terebinth.	ʒ 3⅛.
Picis Norwegiensis	ʒ 5.
Chloroformi	♏ 15.—M.

Sig. By inhalation, to relieve hoarseness.—*Journal de Médecine*, May 15, 1887.

WHAT SALT OF QUINIA SHALL BE USED HYPODERMATICALLY?—*The Therapeutic Gazette*, of May 16, 1887, answers this question as follows:

As regards *quinine*, the question appears to be settled, for the time being at least, in favor of the *hydrochlorate*. At the last meeting of the Paris Society of Pharmacy (April 6th) the merits of the rival claimants, the sulphovinate and the lactate, were discussed and summarily disposed of. The *sulphovinate* has the disadvantage of decomposing when kept, and thereby becoming apt to cause abscesses when injected; the *lactate* of being but little soluble when crystallized, so that the solutions have to be made extemporaneously from freshly precipitated quinine and lactic acid, with some precautions to insure the percentage of active principle. On the contrary, the hydrochlorate is a stable compound, sufficiently soluble, and easily procured from dealers in well-defined crystals, much less liable to adulteration than the ordinary medicinal sulphate. The reason of this comparative purity may be that the sulphate is an old acquaintance of the dealers, in fact, too familiar to them, while the hydrochlorate is a new-comer. But it is unnecessary to borrow trouble; suffice it to say for the present that this salt appears to be the most eligible quinine compound for hypodermatic uses, and that it is, in the actual state of science, found in commerce unadulterated with other cinchona alkaloids.

MENTHOL AND COFFEE FOR CORYZA.—

℞.—Menthol. pulv.	gr. 3.
Coffee roasted and finally ground,	
Pulverized sugar . . .	āā gr. 75.

Use as a snuff.—*L'Union Médicale*, June 9, 1886.

TWO CASES OF INTRACRANIAL TUMORS.—At the recent meeting of the Fourth Congress of Italian Surgeons CECCHERELLI reported a case of sarcoma of the dura mater, whose site was the border of the right frontal eminence; another situated at the border of the right parietal eminence. The first case recovered; the second died.—*Revue Générale de Clinique et de Therapeutique*, No. 10.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

SUBSCRIPTION PRICE, INCLUDING POSTAGE,

PER ANNUM, IN ADVANCE, ... $5.00.

SINGLE COPIES, ... 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

Address, LEA BROTHERS & CO.,
Nos. 706 & 708 SANSOM STREET,
PHILADELPHIA.

SATURDAY, JULY 30, 1887.

THE TREATMENT OF PHTHISIS.

IT must be admitted by those who deny the paramount etiological importance of the tubercle bacillus, that its discovery has given a much-needed impetus to the treatment of pulmonary phthisis. In proof of this statement, it is only necessary to point to the unusual number of papers upon this subject that have recently been read before the principal medical societies in this country and in Europe. One of the latest and most interesting of these discussions, in which DETTWEILER and PENZOLDT were referee and co-referee, took place at the Sixth German Medical Congress, recently held at Wiesbaden.

Although the question is not formally discussed, it is apparent that the first of these authorities is not prepared to deny the predisposing influence of constitutional and local processes, while the latter virtually announces his adherence to the doctrine of predisposition when he speaks of those who are vulnerable either through heredity or acquired disposition.

The referee and co-referee and those who followed them in the discussion, viz., BREHMER, MESS, THIEME, and HAUPT are practically of one mind with reference to treatment. The greatest importance is attached to a life in the open air, preferably in a region that is known to possess an immunity from phthisis. With reference to this latter point, the geological formation, as well as the atmospheric conditions of a health resort, must be considered. According to Gauster, the greatest immunity from phthisis exists in regions composed of mica schist, gneiss, and granite; the least in those where these so-called primary rocks are mingled with dolomite and chalky formations in general.

The open air cure—*dauerluftkur*, as it is significantly called in German—is not contraindicated by the greatest prostration, for patients unable to walk may be carried out of doors in their beds or in reclining chairs.

Fever is the worst enemy of the consumptive, and is to be combated by absolute rest in bed in the open air, with as liberal a diet as can be digested. Alcohol is advised to the extent of one-half to three-fourths of a pint of light red or white wine per diem, to be taken at meals, and, in cases which require it, from two to three ounces of cognac between meals. The new antithermal agents, antipyrin, thallin, and antifebrin, may be employed with benefit. Sweating may be controlled by the timely administration of an alcoholic stimulant, by atropine, agaricine, and, in the opinion of the writer, most effectively by picrotoxine.

When the fever is subdued, and not till then, muscular exercise, at first consisting of systematic movements in bed, and later, if the strength increases, of short walks with frequent rests, is to be taken daily.

This open air system is, so to speak, a hardening one, and to this hardening process Dettweiler attaches the greatest importance, for it affords the patient a greater immunity against the danger of repeated catarrhs of the air-passages. These catarrhs (colds) are peculiarly prone, in the phthisical, to invade the smaller bronchi, in the secretions (catarrhal) of which the bacilli, if inhaled from a higher focus, are detained and multiply in fresh colonies. Dettweiler urgently recommends the prompt and energetic treatment of every fresh catarrhal attack. His method is to place the patient in bed, with sufficient covering to induce rapid perspiration. He is then vigorously rubbed and supplied with change of clothing.

When all is told, the fate of the phthisical depends upon his ability to partake of and digest a sufficient amount of proper food, and it is an unfortunate anomaly of the disease that physiological hunger is in inverse ratio to the actual needs of the tissues for nourishment. At least one quart of milk should be taken in the interval between meals, to which may be added, if milk is distasteful, a small quantity of cognac, *kirschwasser*, carbonic acid water, or a little cold coffee or tea.

With reference to drugs, Penzoldt enters more into detail than does Dettweiler. He regards morphia as indispensable, but says nothing with reference to its dose or time of administration. It is a valuable palliative, and should not be administered an hour longer than the conditions are present for which it was indicated. These are general malaise, pain, and restlessness. As a hypnotic it is inferior to chloral. Inhalations of turpentine and tannin

may be used with advantage to check profuse expectoration. In the treatment of hæmoptysis, rest, ice, and morphia are considered more efficacious than styptics.

Thieme, of Mentone, was the only one of those who took part in the discussion who reported results from the treatment by gaseous enemata. He stated that while the accepted cause of the disease, the bacillus, was not removed, the general condition of the patient was improved by this method.

In this connection reference may be made to the discussion of FRÄNTZEL'S paper in the *Verein für innere Medicin*, at the meeting of May 16, 1887, on the use of creasote in the treatment of pulmonary tuberculosis. Experiments have shown this substance to be inimical to the growth of the bacillus when mingled, in minute quantity, with a gelatine culture medium, and on this fact is based its internal administration. The reports concerning the results of treatment by this drug are variable, but in a certain number of cases in the early stage it appears to be beneficial. Great importance is attached by Lublinski and Fräntzel to the use of a pure preparation from beech-wood.

By common consent a hygienic treatment, such as that outlined in the foregoing presentation of the views of Dettweiler and Penzoldt, is the most efficacious, and this will continue to be the case in the event of the discovery of the much hoped-for specific; for, supposing the local disease brought to a standstill by the removal of its cause, by no other means can the enfeebled system be roused to the labor of the retrograde ascent to health.

SUPPURATIVE PUERPERAL PERITONITIS.

BESNIER recently reported to the Paris Society of Medicine a case which is typical of a class not infrequent, and very little amenable to medical treatment.

A young and previously healthy woman had completed her third normal labor under the care of a midwife. On the fourth day after confinement she was attacked by acute septicæmia, which she withstood with the aid of change of air, tonics, and stimulants. Besnier saw her six weeks after delivery; her abdomen was distended by an encysted abscess. Emaciation, malaise, apyrexia, night sweats, and a rapid, feeble pulse completed the picture of septicæmia. The pus-cavity was punctured and five and a half quarts of pus were evacuated. The cavity promptly refilled, but the patient's general condition was much improved, and she began to assimilate food and stimulants. The after-treatment consisted in the application of tincture of iodine and collodion to the entire abdomen, and the free use of tonics. The fluid and membrane which had lined the pus-sac were gradually absorbed, and cure followed in six weeks.

Beginning septic peritonitis after operations has been cured, in a few cases, by prompt disinfection and drainage. Rose, Tait, Mikulicz, Krönlein, and others, have operated for diffuse peritonitis with a few successes. Diffuse suppurative peritonitis is a disease whose mortality is very high. When of tuberculous origin, it may be greatly benefited by drainage; but the character and relative positions of the abdominal contents are such that a diffuse septic process offers the greatest difficulty to operative treatment.

In the case under discussion the first indications of sepsis should have been met by prompt intrauterine disinfection, of which the midwife was ignorant. Under the existing circumstances, one of two procedures was admissible: ventrotomy with exploration and disinfection of the cavity, and aspiration with the injection of iodoform in ether or vaseline. The choice rested upon the diagnosis of encysted, and not diffused, suppuration.

In the present case the suppurative process was thought to have been "benign," probably because recovery followed. This doctrine, although venerable, is a poor rule of action; and the patient's cure must be ascribed more to the resistant powers of the peritoneum, and the patient's ability to assimilate food and tonics than to any benignity on the part of the ptomaines and bacteria of septicæmia.

The occurrence of diffuse septic peritonitis is one of the most serious complications of parturition, and is to be met by the prompt application of those principles of conservative surgery which are so successful in like conditions elsewhere in the body.

EXCISION OF THE MEMBRANA TYMPANI AND THE OSSICLES OF HEARING.

SINCE the time of Valsalva it has been known that loss of the membrana tympani and the ossicles, except the foot-plate of the stapes, does not cause complete deafness, but at most hardness of hearing. Nevertheless, an erroneous impression has gained a hold in the minds of physicians and the laity, that loss of the membrana tympani necessitates loss of hearing. The first endeavors to excise the membrana partially, with the view of aiding the hearing, date from the beginning of this century, and were made by Karl Himly and Sir Astley Cooper. Similar trials were made by Deleau, Fabrizi, and Brunner (1841), and by Bonnafont as late as 1860. But their instruments and their operations were clumsy and rough, and their results very unsatisfactory. Their aim was to make and maintain an opening in the membrana, rather than to excise either it or the ossicula. But they all alike failed to make a permanent opening. Wreden then pro-

posed to resect part of the handle of the hammer, hoping thus to prevent entire healing of the opening in the membrana. But this method failed in its object, as all previous ones had done. This was especially disappointing, as in most cases the hearing improved so long as the opening in the membrana was maintained.

Then came a variety of suggestions as to ways of making a permanent opening in the drum-membrane, as, for example, by means of iodide of mercury, sulphuric acid, and the galvano-cautery. But the opening thus made would always close as soon as all the acute symptoms of inflammation had subsided. The operation for making a permanent opening in the drum, in order to improve the hearing, was then given up. The fact that in purulent processes the hammer and the incus can be thrown off without a very high degree of hardness of hearing as a result, led to the idea that obstructions in the sound-conducting parts of the tympanic cavity, lying to the outward of the stapes, and caused chiefly by immobility of the hammer and anvil, could be removed by excision of the ossicles.

Schwartze performed excision of the membrana, and extraction of the entire hammer, for relief of sclerosis, in 1873. The temporary improvement in hearing disappeared as soon as the imperfectly excised membrane had formed again. Lucæ, of Berlin, seems to have performed a similar operation in a number of cases, but his results are not fully published. Kessel, of Prague, has suggested that to prevent a regrowth of the membrana tympani, the annulus cartilagineus, in the posterior circumference of the membrana, be removed, and eventually a resection of a portion of the sulcus tympanicus be performed by means of a chisel.

In 1886, DR. SAMUEL SEXTON, of New York, presented a paper before the American Otological Society, in which he set forth "A New Operation for the Radical Cure of Chronic Purulent Inflammation of the Middle Ear Tract." In this procedure the remnants of the membrana tympani, and especially that part of it known as the membrana flaccida, are first cut away, and then the malleus and the incus are removed, the latter being first separated from its attachment to the stapes. This operation has been performed by Dr. Sexton nineteen times within the past year and a quarter, with very satisfactory results as to the cure of the chronic otorrhœa, and improvement in hearing in many cases, although the operation was not undertaken for the attainment of the latter result.

As the operation is of importance, the foregoing historical sketch seems demanded, in justice both to the profession and the laity, in order that both may see the legitimate development of a valuable surgical operation.

SPONTANEOUS RUPTURE OF THE CORD.

RUPTURE of the umbilical cord in labor is a comparatively rare accident. It has occasionally occurred when a woman has been surprised by the expulsion of the child while she was standing, the child falling to the floor, for a sudden force less than the weight of the child will cause the cord to give way.

But can there be a spontaneous rupture if the woman be delivered in bed? This is a very important question in medical jurisprudence. For example, if a mother be found with a recently born child that is dead, the death having been caused by bleeding from a ruptured cord, that rupture occurring at the umbilicus, or at some other part, one might hastily conclude that the injury was done by the mother, or by some one else, and its purpose was to kill the child. Some cases, however, reported by BUDIN, in the *Annales d'Hygiène Publique* for June, 1887, prove that the conclusion might be quite unjust; in other words, spontaneous rupture of the cord may occur where there has been no interference whatever, and the mother was delivered in bed. The number of cases of this accident presented by Budin is four, the first by Schatz, the second by Dupuy, and the other two occurred in his own service in La Charité. In neither of Budin's cases was there any relative or absolute shortness of the cord, and it was of usual size; the rupture occurred solely from the utero-abdominal contractions which expelled the child.

MOUNT HOLLY, N. J., is suffering from an epidemic of typhoid fever, which is said to have originated in the water supply becoming polluted by the fecal discharges from a case of typhoid fever which existed during the spring at Smithville, a small village about four miles above the town and on the creek from which the water supply of Mount Holly is drawn.

It is well nigh impossible to prevent the pollution of water courses, but ample experience has shown that it is easy and an imperative duty to disinfect typhoid stools before emptying them, and thus to destroy their power of propagating the fever.

THE twentieth annual meeting of the West Virginia State Medical Society was held at the White Sulphur Springs, on July 13th, 14th, and 15th, under the presidency of Dr. Samuel L. Jepson, of Wheeling. A number of distinguished members of the profession from neighboring States were present and contributed to the proceedings. Dr. Luther S. Brock, of Morgantown, was elected president for the ensuing year, and Huntington was selected as the next place of meeting.

THE State Board of Health of West Virginia has attained an enviable reputation by reason of its efficiency and the professional standing of its members. On the accession of the present Governor, the influence of the administration appeared to be against the work of the Board. Bills incurred by the Board were refused approval, appointments provided by the State laws were neglected, and, finally, a member, said to be ineligible under the laws of the State, was appointed to office.

This appointment led to a protest by twenty-nine physicians of Wheeling; the State Medical Association, at its late meeting, denounced the action of the Governor, and public sentiment is in accord with that of the profession in resenting it.

Nothing is more deplorable than the refusal of the State to coöperate with and support the efforts of the medical profession for the public good.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

Twentieth Annual Meeting, held July 19, 1887, at New London, Conn.

(Specially reported for THE MEDICAL NEWS.)

MORNING SESSION.

The Society was called to order at 10.30 A. M. by THE PRESIDENT, DR. J. S. PROUT, of Brooklyn.

PRELIMINARY BUSINESS.

DR. E. E. HOLT, of Portland, was elected Secretary *pro tem.*

Resolutions expressing regret at the absence of THE SECRETARY, DR. J. J. B. VERMYNE, who was prevented by ill health from being present, were adopted, and the Secretary of the meeting was directed to forward a copy to Dr. Vermyne.

The report of the Committee of Conference with reference to the formation of a

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

was adopted, and the following resolution was also adopted:

Resolved, That the Society expresses its acquiescence in the general plan for the formation of a congress of special societies, as set forth in the printed minutes of the Washington meeting of September 24th. The naming of the representative and alternate to executive committee of the congress was left to the nominating committee.

DR. H. KNAPP, of New York, presented

THE EXAMINATION OF THE POWER OF HEARING, AND HOW TO RECORD ITS RESULTS,

the report of a committee consisting of Drs. H. Knapp, J. S. Prout, and D. B. St. John Roosa. The tests for hearing described were the watch, the voice, Politzer's acumeter, and the tuning-fork. The watch is one of the best means of testing the hearing. A low-ticking watch is of service in indicating the lowest degree of hardness of hearing in those cases where the patient has not become aware of the defect. This is, however, not sufficient to measure the higher degrees of deafness. In these cases a loud-ticking watch or Politzer's acumeter must supply its place. Each of these instruments must be tested by the physician in his office on a number of normal ears, in order that he may obtain a standard. It is a fact that in persons over fifty-five years of age, a low-ticking watch may not be heard when placed over the temporal or mastoid bone if the ear is closed, but will be heard if the ear is open.

With reference to the voice as tests for hearing, the whispered voice, the voice of ordinary conversation, and the loud voice, are used. Each observer must test his own voice by the acuteness of hearing of normal persons between the ages of twenty and forty-eight years of age. The state of the room as to noise and quiet should always be considered.

The tuning-fork over all parts of the skull is heard louder and longer when the ear is closed than when it is open. All tuning-forks are heard longer by air-conduction than by bone-conduction. Low tuning-forks are heard louder, but not longer, by bone-conduction than by air-conduction. Departure from these conditions indicates disease.

DR. SAMUEL SEXTON, of New York, thought that sufficient importance had not been given to the varying conditions of the patients themselves. He found that in cases of chronic catarrhal inflammation of the middle ear, and also in acute forms of inflammation, that there are constantly varying changes in the tension of the drum and in the transmitting mechanism. In these cases the acuteness of hearing changes from hour to hour or day to day. He had noticed that in the morning, when the perceptive faculties are active, a patient will hear better than he will later in the day. It is also well known that the vapor tension of the air, as well as the temperature, has something to do with the transmission of sound. The hearing is better in cold weather than in hot. He thought that there would always be difficulty in obtaining accurate tests for the more interesting cases which come under observation.

DR. ST. JOHN ROOSA, of New York, was not inclined to lay such stress as has been done on the variations in hearing from hour to hour in cases of chronic inflammation of the middle ear. These variations do occur in cases of disease of the middle ear, but he thought that they are more marked in disease of the internal ear. In cases of nervous deafness the condition of nervous exhaustion has much to do with the capacity for hearing.

DR. SAMUEL THEOBALD, of Baltimore, mentioned an observation bearing upon the use of the tuning-fork, which he had made in a number of instances, and which he had been unable to explain. In certain cases, when the tuning-fork is placed on the vertex, the patient will hear it louder in one ear, say the right; then striking the fork again, and placing it upon the forehead, it will be heard best in the left ear. This had given him less confidence in the tuning-fork as a differential test between middle-ear and labyrinthian troubles.

DR. KNAPP said that for practical purposes we must test the hearing as accurately and with as little loss of time as possible. In certain cases of chronic catarrh we get no change in the hearing power by any test. In these cases, he thought that nothing is to be looked for from treatment. Where, however, by changes of weather, or changes in the patient's condition, there is a change in the hearing power, we know that there is

something to improve. We get not only an estimation of the condition, but we also get a foundation for prognosis and an indication for treatment.

DR. CHARLES H. BURNETT, of Philadelphia, reported a case of

SUCCESSFUL REMOVAL OF AN EXOSTOSIS FROM THE EXTERNAL AUDITORY CANAL BY BONE-FORCEPS AND CHISEL.

The patient was a physician, about thirty years of age, in whose right ear the exostosis had been growing for fifteen years, and within the past year it had entirely occluded the meatus and caused deafness. The growth was about one centimetre in diameter, pediculated, and attached to the anterior wall of the meatus just within the outer edge of the tympanic bone. Its outer surface was covered with thick and rather insensible skin. After a hypodermatic injection into the concha of fifteen minims of a five per cent. solution of hydrochlorate of cocaine, the outer surface of the exostosis was seized by specially devised bone-forceps and a piece of the bone tumor cut off. About one-half of the growth was thus removed in successive pieces. As the blades of the forceps could not enter further into the meatus and get hold of the remnant of the exostosis, a small chisel a few millimetres in width was placed against the attachment, and a blow from a hammer on the chisel knocked off the remainder of the growth *en masse*. The operation caused very little pain or bleeding. The fundus of the canal and the membrana tympani were covered with a glove-finger cast of epithelium. This was removed, and the hearing found to be normal. The ear was dressed with a little iodoform and stopped with cotton. There was no reaction, and the cut surface of bone on the wall of the meatus at the point of attachment of the exostosis, was entirely covered with skin in two or three days. Usually drills impelled by the dental lathe have been used to open the lumen of the canal occluded by exostosis. The novelty in this case consisted in the use of bone-forceps, devised by the author to remove the growth as far as possible, and then the use of hammer and chisel to complete the opening.

DR. KNAPP said that to attack exostoses at the apex with the chisel, where they consist of ivory bone, is most difficult. The most efficient way in his experience is to attack them at the base. Here the bone may be much softer. In the after-treatment cleanliness and antiseptic precautions are of the utmost importance. He considered this a safe and the most efficient method of removing these ivory tumors with large bases.

DR. J. A. ANDREWS, of New York, endorsed what Dr. Knapp had stated. Where these osteomata are situated in the orbit, much serious injury may be inflicted upon the brain by the use of the chisel. It would be much easier to fracture the plate of bone lying against the brain in osteoma of the frontal sinus by attacking the tumor itself than by attacking the bony surroundings of the growth.

DR. D. B. ST. JOHN ROOSA read a paper on

THE DIFFERENTIAL DIAGNOSIS BETWEEN AFFECTIONS OF THE MIDDLE EAR AND THOSE OF THE LABYRINTH.

There has been some difference of opinion as to our ability to differentiate between affections of the middle ear and those of the labyrinth. Many cases usually classed under affections of the tympanum should be placed among diseases of the cochlea or of the acoustic nerve. The records of seven recent cases were given in detail. These cases were nearly all in the middle period of life, when its cares and troubles are most pronounced. Such patients often exhibit symptoms of nervous exhaustion. These cases may be benefited by the administration of strychnia, arsenic, and quinine. Proper hygiene should be employed. The universal use of the watch as a test of hearing occasionally leads to false conclusions on the part of the general practitioner, who discovers loss of hearing by testing with the watch alone. When used alone, I regard the watch as inefficient. When both the watch and the voice are heard badly there is cause for anxiety. Many persons have lesions which cause them to hear the watch and certain other tones badly who can hear the voice well. In the opinion of the author, those persons who hear conversation better than the watch, who hear better in a quiet room than where there is noise, and who hear the tuning-fork better through the air than through the bone, suffer from an affection of the labyrinth or nerve, and not from disease of the tympanum, although the latter may be engrafted upon the previous affection. The general adoption of this view would save a good deal of local treatment of the nasopharynx and tympanum, and greatly simplify and improve our therapeutics.

DR. EMIL GRUENING, of New York, asked if the cases described by Dr. Roosa were benefited by general treatment?

DR. ROOSA said that, as far as the aural condition is concerned, he regarded these cases as incurable. He thought that we could assure those patients that if the general health be looked after carefully that they will never hear so badly but that they can hear in a quiet place. This has a good moral effect. It makes the patient happier, and enables us to dispense with such useless treatment.

DR. HOLT for several years had performed experiments with the tuning-fork, but had not been able to reach the conclusions presented by Dr. Roosa. We may find quite a degree of deafness, and still the tuning-fork will be heard longer by air conduction than by the bone. He had seen many cases where bone conduction would be longer than air conduction, and where by treatment the air conduction would become longer. It is difficult to test the hearing properly with the watch, unless it is made with a stop. In his own case, he hears the watch very badly. He hears the tuning-fork by air conduction three or four times longer than by bone conduction. In an ordinarily quiet room he can hear all that is said, but in the cars he can hear better than a person with normal ears.

DR. ROOSA said that the case of Dr. Holt would not agree with his experience, which is that a person who hears well in a quiet room, and who hears the watch badly, always hears worse in the cars than he does in a quiet room.

DR. ROOSA then made some

REMARKS UPON A CASE OF CEREBRAL ABSCESS.

The patient, a boy, aged eleven years, came under observation May 4, 1887, with a painful swelling over the right ear. It was said that the boy had had some

trouble with the ear two years before, but that there had been no discharge. For three months he had tinnitus aurium and vertigo. One week before he was seen he had pain in the ear, then this swelling appeared. Bone conduction with the tuning-fork was better than aërial conduction. The hearing of the left ear was normal. Immediately above and in front of the auricle there was a swelling the size of a walnut. This presented fluctuation. There was a history that previous to admission to the hospital the treatment had consisted in the use of injections and the insufflation of powders. The auditory canal was filled with a white substance, which was supposed to be the powder that had been employed. The day after admission the patient was etherized, and the abscess opened with the removal of half an ounce of laudable pus. No fistula was discovered. The patient did well for nine days. Nausea and vomiting then set in, and the temperature went up to 104°. The patient sank into a condition of coma, and died on the tenth day after admission. At the autopsy there was found a cerebral abscess one and one-half inches in diameter, situated in the temporo-sphenoidal lobe, one-half inch from the surface of the brain. This was lined with thick membrane. The membrana tympani was perforated, and the upper wall of the canal was necrotic. At the junction of the mastoid and squamous bones, there was a spot of necrosis one-half inch in diameter. The canal and mastoid cells were filled with caseous material.

DR. ROOSA also reported the history of a case of

SUPPURATION OF THE TYMPANUM OCCURRING IN A PATIENT WITH BRIGHT'S DISEASE.

The patient, a woman, aged forty-two years, was seen April 11, 1887. There was intense pain referred to the left ear, which had existed since the day before. The hearing was much impaired as the result of a chronic non-suppurative inflammation of the middle ear. The bone conduction was better than the aërial. There was a watery discharge from the left auditory canal. Examination of the urine revealed the presence of Bright's disease, and the patient died some days later from œdema of the lungs. The point which the author made was that although this patient complained a good deal of the mastoid proces, it was determined that there was no lesion requiring operation, because of the absence of the characteristic symptom of tenderness at the apex. The case was regarded as one of tympanic trouble. The post-mortem proved that there was no trouble with the mastoid, but acute suppuration of the tympanum occurring in a patient with chronic non-suppurative inflammation. The patient died with Bright's disease.

DR. W. H. CARMALT, of New Haven, remarked that the author spoke of tenderness of the mastoid as though it were an almost infallible sign of suppuration in the mastoid cells. He asked if we should expect to find this sign always?

DR. ROOSA thought that this is a very strong test, although by no means infallible.

DR. GRUENING last winter saw a number of cases of abscess. In children he opens the abscess, and invariably opens the mastoid cells, especially where the abscess has been preceded by otitis media purulenta. In four of the seven cases the mastoid cells were filled with pus In this way, thorough drainage was established, and all the patients recovered. He saw three cases of otitis media purulenta treated by insufflation of powder, leading to retention of secretion and death. All died of meningitis.

DR. B. E. FRYER, of Kansas City, asked whether the abscess and the affection of the ear were of the same duration?

DR. ROOSA thought that the cerebral abscess was of long duration, months, possibly years. The abscess was undoubtedly induced by the tympanic disease.

DR. LUCIEN HOWE, of Buffalo, remarked that this case called to mind one which he had seen in a child where there was a history of recurring attacks of ear trouble with discharge. It was stated that good results had been obtained by the use of alum and boric acid. This was continued and the patient began to develop the typical signs of mastoid trouble. He etherized the child and removed the accumulation in the outer ear and all the symptoms then subsided.

DR. W. H. CARMALT said that the fact that the cerebral abscess was surrounded by a thick membrane did not prove that it was of long duration. In a recent case of cerebral abscess resulting from an injury over the parietal bone, he attempted to reach the abscess by trephining, and passed a knife two and a half inches in the direction where he supposed the abscess to be, but got no pus. The man died, and an abscess was found in about the position exposed. The wall was so thick that the pressure of the knife had squeezed the pus into the lateral ventricles and death had been the result. In this case the operation was performed within two months of the original injury.

DR. E. E. HOLT, of Portland, read a paper on

AN EFFICIENT POWDER BLOWER, WITH REMARKS ON THE USE OF POWDERS IN THE TREATMENT OF DISEASES OF THE EAR.

The powder blower consists of six or eight inches of small glass tubing to which are attached about fifteen inches of rubber tubing. The glass tube is plunged into the powder until a sufficient amount is introduced into it. The powder is gently drawn into the proximal end of the glass tube. The distal extremity is then placed in the speculum and the powder blown into the ear. By drawing the powder from the distal end before blowing it, it is carried *en masse* to the desired point and applied evenly to all parts. The instrument can be used with great facility. After trying various powders, boric acid has been found the most efficient in the largest number of cases. One of the first cases in which the author had used this powder was one in which treatment for over two years had failed to cure a suppurative otitis media. Upon the application of the powdered boric acid the discharge ceased, and has not returned, a period of five years. Cleanliness, before using the powder, is essential. A comparison of cases of chronic suppurative otitis media treated with boric acid with those treated without this agent, led to the conclusion, that while the discharge from the ear ceases much earlier when the powder is used, yet perforations in the drum-head heal less frequently.

DR. SAMUEL THEOBALD exhibited a powder blower similar to that of Dr. Holt, with the exception that the glass tube was substituted by a piece of goose-quill and

that the rubber tube was furnished with a mouth-piece consisting of a quill. The powder is introduced into the quill and by shaking brought to the proximal extremity of the tube, the object being that it shall be thrown into the ear in the form of a cloud.

DR. WM. W. SEELY, of Cincinnati, had never seen any benefit from blowing powders into the ear. He had seen only good results where the powder is packed into the canal. He, however, now rarely uses the powder in any way. In these cases of suppuration there are three points to be observed: the Eustachian tube should be kept open, the naso-pharynx should be treated as in any other case of inflammation of the middle ear, and the ear should be kept clean by the use of cotton probes.

DR. ROOSA, of New York, had found the syringe the best means of cleaning the ear. He uses powders with great circumspection, and considers them inferior to other methods of treatment.

DR. B. ALEXANDER RANDALL, of Philadelphia, said that in treating a number of cases of purulent discharge which had continued from five to fifteen years, and in which the discharge had been pretty continuous and fetid, he had cleansed the canal and used boric acid; at first blowing it in lightly, and finally filling the canal pretty full without packing. Within a few days the powder is dissolved, and the discharge is usually diminished in quantity and the odor is lost. In eight out of every ten cases, that had been his experience. He had never seen any bad results.

DR. KNAPP used boracic acid in acute cases of otorrhœa as an antiseptic and cleansing powder. The patient is directed to cleanse the ear with the syringe three times a day. The powder is then introduced by means of a spoon until the canal is loosely filled. If the powder becomes moist the patient is directed to syringe the ear and renew the application. The majority of acute cases do not require any other treatment. In chronic cases he removes any polypoid growths or any carious bone that may be present, and then uses alcohol in fifty or sixty per cent. strength or absolute with sulpho-carbolate of zinc, and changes that with nitrate of silver. He continues this treatment until the ear is dry and there is no discharge, and then directs the patient to do nothing beyond using a light cotton plug to filter the air. He does nothing to the perforations. In one case he makes an exception, and that is when a perforation of moderate size has perfectly clear edges and remains in the same condition for weeks or months. Here he pastes a small piece of sized paper over the perforation. In many cases the hearing is improved, and it seems to stimulate the healing of the perforation.

DR. C. R. AGNEW said that in using fluid applications in the treatment of these cases he had employed a procedure which might be new to some of the members. After cleaning the ear in which he wants to diffuse a fluid application as much as possible, he turns that ear uppermost and fills the external canal with the solution. Then he inserts the nozzle of the Politzer apparatus into the external canal and makes pressure, diffusing the liquid to all parts of the ear and making it appear in some cases in the pharynx. This sometimes may be of value.

DR. SAMUEL THEOBALD thought that both powders and solutions may be used with advantage. He had never seen any direct harm follow the use of boracic acid. In cases of suppuration, with a small or moderate sized perforation, he had seen it dry up the discharge and leave the perforation larger than before its use. In such cases he prefers solutions. In acute cases his practice is always to use solutions. He had used a fifteen grain solution with satisfaction. Where the drum-membrane is practically gone, with a granular condition of the mucous membrane the use of boracic acid powder is indicated. He had never found it necessary to pack the canal. One puff of the powder-blower fills the canal sufficiently full.

DR. KNAPP said that in acute suppurative otitis, which is certainly of bacterial origin, he used boric acid largely on account of its drying properties. Suppuration, fermentation, and decomposition do not take place where a part is kept dry. The ear is unfavorable for thorough drainage. As soon as the boric acid becomes moist he has it removed. For acute cases he knew nothing better than this method of treatment.

DR. EMIL GRUENING made a few remarks with reference to three cases which he had already mentioned. In these cases he attributed the fatal result to the use of powder, which was boracic acid. The first case, that of a girl, nineteen years of age, had otitis as a result of the use of the nasal douche. She was advised to use powders. In a few days she began to suffer with headache, dizziness, and intense tenderness on one side of the head and slight puffiness in the region of the mastoid. The author saw the patient after she had become comatose. The tympanic membrane was bulging and injected; there was a slight tit-like projection, and in this there was an opening filled with powder. The pus which formed in the middle ear escaped through the Eustachian tube. He made an opening in the membrane and cleaned it out carefully, and advised the family physician to open the mastoid. He did so, and found the mastoid cells filled with pus. The patient recovered consciousness, but died the next day from heart failure. The second case was that of a lady, seventy years of age, who had otitis media with perforation. A powder was applied by a general practitioner, and a few hours later she began to suffer with intense headache. Symptoms of meningitis appeared. There was a small opening in the membrane occluded with powder, an opening was made, but the patient died of meningitis. The third case was that of a child with long standing otitis media, and destruction of both membranes. This is the only case in which the powder had been packed. After the ears had been packed the child had repeated chills. The speaker was called in and removed the plugs, which were hard, concrete masses, and were taken away with difficulty. In spite of the removal of the powder the child died with all the symptoms of pyæmia.

DR. ROOSA thought that in a large percentage of cases acute inflammation of the middle ear is a self-limited affection. He tried to secure cleanliness and then dry the parts. He does not use dryness as a means of destroying the germs or preventing them from acting, for he does not believe in the germ theory of disease. He considers that germs are the products and not the causes of disease, and thinks that they retard the recovery and therefore should be removed. In a large proportion of the acute cases the only treatment required is irrigation with warm water *pro re nata* and drying afterward. He

believes that the pus has a chemical quality apart from the presence of germs, which renders it corrosive. He therefore tried to keep the parts as free from pus as possible.

DR. S. SEXTON thought that it would help in the discussion to consider the kind of cases in which boric acid is useful. Where there is a catarrhal inflammation of the atrium there is generally a profuse discharge which renders it difficult to apply the powder. In the cases referred to by Dr. Gruening, where there is a nipple-like formation, there is little discharge from the atrium. In these cases he makes an early and free opening, and in this way has avoided many of the consequences which are apt to follow in these cases. He makes this opening with a stout tenotome. An opening is made through the membrana flaccida into the attic and through the integument of the upper wall, which usually becomes tumefied.

DR. S. THEOBALD desired to enter a protest against the view that the good effects of boric acid are due entirely to its drying qualities. Some of his most brilliant results have been with the solution of boric acid. He has had cases in which the discharge stopped after a single application of a saturated solution of boric acid.

DR. J. A. LIPPINCOTT, of Pittsburg, considered boric acid a most valuable agent and would not care to relinquish its use. There are, however, certain cases in which, as a result of idiosyncrasy on the part of the patient, the powder acts as an irritant. In the cases reported by Dr. Gruening the fatal results are to be attributed to its improper use. It seemed to him that the dangers of boric acid can be avoided by applying it in the form of a loose powder.

(To be concluded.)

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-third Annual Meeting, held at New London, Conn., July 20 and 21, 1887.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, JULY 20TH—FIRST DAY.

OBITUARY NOTICES.

DR. DERBY, of Boston, read a sketch of the life of the late Dr. Ezra Dyer, of Newport, R. I., formerly of Philadelphia, one of the founders of the Society, and DR. H. D. NOYES briefly referred to the character and work of the late Dr. Wm. S. Little, of Philadelphia.

SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.

DR. C. S. BULL, of New York, reported thirty-six cases of extraction by Daviel's method. The age of the patients ranged from thirteen to seventy-nine years. Of the cataracts 24 were hard, 11 soft, and 1 of traumatic origin. Strict antiseptic precautions were taken both as to operation and after-treatment. Solutions of bichloride of mercury were used for washing the operator's hands and the patient's face, of the strength of 1 : 1000, while a solution of 1 : 500 was repeatedly used to wash out the conjunctiva, and the instruments were left lying in an alcohol bath. The corneal flap was cut with a narrow Gräfe knife, and included two-fifths of the circumference of the cornea. Usually the iris did not prolapse. The capsule was then opened with a cystotome, and the lens extracted by manipulation. The iris, if it had prolapsed, was then replaced. Any lens matter remaining in the anterior chamber was washed out by a solution of the bichloride 1 : 10,000; eserine was then instilled into the anterior chamber; the eye covered with sterilized linen and absorbent cotton and bandaged. The bandage was not removed for two days; but the bichloride solution and instillations of eserine were introduced beneath it twice a day. If the eye seemed to be doing well it was not opened until the fourth day, when the bandage was removed for the second time, then replaced and kept on one day longer. The patient was carefully confined to bed, and this was regarded as very important. In 20 cases the iris had to be reduced, but no case of secondary prolapse occurred, and none of suppuration. In the first 30 cases there had been no incarceration of the iris, but this had occurred near the periphery in the last 6. Plastic iritis occurred in 6 cases, irido-chorioditis in 2, in 2 the corneal epithelium was lost some days after the operation, but subsequently regenerated, The average duration of treatment was twenty days. Two required subsequent needling, one the excision of a piece of capsule.

In 20, a central pupil was secured; in 16, pupil displaced. Vision of $\frac{20}{XXX}$ to $\frac{20}{C}$ in 33 cases, of $\frac{20}{CC}$ in 2 cases was obtained. The remaining case had light perception.

This operation preserves the natural appearance of the iris. Central vision is about the same as after the ordinary extraction with iridectomy, and peripheral vision better. There is less liability to the incarceration of the capsule in the wound. But the technique of the operation is much more difficult. This plan of operation is contraindicated by a narrow anterior chamber, fluid vitreous, or rigid iris; and an iridectomy must be made if the corneal incision is too short, or the iris falls before the knife while making it.

PERIPHERIC-LINEAR EXTRACTION WITHOUT IRIDECTOMY.

DR. H. KNAPP, of New York, had made sixty-eight such cataract extractions, beside eight cases in which the operation was attempted but an iridectomy had to be made. The after complications and accidents were mild iritis 3 cases, severe iritis with closure of the pupil 1, protrusion of the iris 3, incarceration 1, capsule-iritis 1, and suppuration 1. The remainder did well. Vision was entirely lost in one case, and was less than $\frac{10}{CC}$ in two other cases. The pupillary area is obstructed by wrinkled capsule quite as frequently as after other extraction operations. In one case prolapse of the iris occurred on the fourth day; in attempting to excise it the prolapse was partially reduced, the reduction was completed, and the eye recovered with a perfectly central pupil. In the case of a man addicted to excessive drinking the eye recovered well with V. $= \frac{20}{L}$. Later, a needle operation was done, and twenty-four hours afterward the patient was attacked with dysentery and acute nephritis. Circumcorneal injection and chemosis appeared, and the eye got very hard. By the third day movements of the hand were alone perceived. An iridectomy was done which cured the eye. On the whole, this method of cataract extraction seems as safe, and on

some accounts preferable to the ordinary method with iridectomy.

ONE THOUSAND SUCCESSIVE CASES OF CATARACT EXTRACTION.

DR. H. KNAPP, of New York, gave a summary of the results in these cases which had been previously reported in series of 100. The results in the different series were, in percentages, given as follows:

Series.	Good.	Moderate.	Failures due to Suppuration.	Failures due to Other causes.
First . .	70	22	3	5
Second . .	86	12	2	0
Third . .	86	9	3	2
Fourth and fifth	81	7½	8½	3
Sixth . .	89	1	8	2
Seventh . .	88	7	2	3
Eighth . .	90	8	1	1
Ninth and tenth	90½	5½	3	1

In the first series the section was made as far back as possible, and prolapse of the vitreous was frequent. In the third series the technique was considerably improved. In the fourth and fifth, Gräfe's section was practised and a piece of the capsule was removed; and scrupulous care was taken to remove from the pupil all lens substance that was bacteriologically bad by practising manipulation. After this the capsule was opened only at the periphery, and the section shifted into the peripheric circular section of Wecker. In the ninth and tenth series the operation was done with antiseptic precautions. In two cases the other eye had been lost by sympathy. Statistics show that the introduction of Gräfe's extraction reduced the cases of suppuration from ten or twelve to four or five per cent. Suppuration may commence at other points than in the corneal section. Purulent capsulitis frequently occurred in the earlier series. The reader was convinced that all suppuration was connected with the presence of germs, and paid tribute to the late Prof. Horner for his share in the introduction of antiseptic methods in ophthalmic surgery.

With regard to iridectomy, there were certain cases in which it was necessary, and other cases in which it was best.

DOES SUNSTROKE AFFECT THE SIGHT PERMANENTLY?

DR. J. A. SPALDING, of Portland, Maine, introduced the question of the permanent effects of insolation and sunstroke upon vision. So many pension claimants are now coming forward asserting that they suffered from sunstroke, and permanent loss of sight in the army, and finally became more or less blind, that it is quite desirable for the expert in examining such cases, to be supported by greater authority than he is likely to discover in any text-book or accessible literature. In point of fact, there has been reported in the vast extent of ophthalmic literature, but a single undeniable case in which sunstroke was followed by permanent blindness, and six others in which the eyes were ophthalmoscopically examined soon after the attack. In all others optic neuritis was distinctly marked, and in several vision was reduced to a low degree. Yet, ultimately, all six recovered perfect vision without much, if any treatment.

Two or three cases illustrative of the assertions of pension claimants were presented in the paper, and the precise reasons for granting, or not granting, a pension were reported in full. Judging from the history of these cases, insolation had nothing whatever to do with the loss of sight; whilst from historical and scientific records it appears extremely doubtful whether the disease ever has any permanent effect on the sight. The frequent allegations of patients "losing their sight during a sunstroke," or of a dimness coming over their eyes are simply descriptive of the incipient stage of unconsciousness; and are untruthful in a scientific point of view. These recollections become in later years the basis of pension claimants' assertions that their vision was seriously affected by sunstroke. Dr. Spalding expressed the opinion that these were false; and hoped that the members would support expert examiners against the insults of politicians and claimants' friends for refusing to grant pensions for asserted blindness fifteen or twenty years after a sunstroke.

DR. E. JACKSON, of Philadelphia, had found that the diagnosis, in the cases of those now claiming pensions, must be made very much as in the cases of hysterical malingerers. He had once seen permanent impairment of vision after sunstroke. But the impairment came on at once, the history clearly indicating meningitis, both disks presented the appearances of post-neuritic atrophy; and the fields of vision, particularly for colors, were irregularly contracted.

A CASE OF PROBABLE QUININE AMAUROSIS.

DR. D. B. ST. JOHN ROOSA, of New York, reported the case of a lady who had intermittent fever for some weeks during the summer. In October, when apparently well and not menstruating, she was suddenly seized with convulsions and became unconscious. Four, thirty-grain doses of quinine were given per rectum. By the third day she had recovered consciousness. Vision-counting fingers at four feet; papillæ white, retinal surface uneven. She took quinine three times a day; and strychnia was given hypodermatically daily, in increasing doses until the limit of tolerance was reached at one-twenty-fourth of a grain. After seven weeks her best vision, which had at first been eccentric, was centric; enabled her to see large objects at a distance, and small objects near, and to read No. 2 of Jäger's scale. In May, her sight had greatly improved, and later she was seen walking about the city without attendance.

DR. E. GRUENING, of New York, had seen a lady of fifty, who, after one thirty-grain dose of quinine, had remained deaf for twelve hours and blind for twenty-four hours. Five days later, in both eyes, the fundus and central vision were normal, and color perception good. But the fields of vision were greatly limited; extending not over thirty degrees in any direction. Cases of slight quinine amblyopia were rarely recorded.

DR. G. C. HARLAN, of Philadelphia, had seen cases of hysterical amblyopia that resembled the one just narrated.

DR. GRUENING said that the attending physician wrote to him that this patient was hysterical.

DR. ROOSA said that it has not been established to his satisfaction that ischæmia is the primary lesion in quinine amaurosis. Experiments upon the drum membrane of the ear indicate that the primary lesion is not ischæmia, but congestion.

CLINICAL CONTRIBUTIONS TO THE STUDY OF RING SCOTOMA.

DR. SWAN M. BURNETT, of Washington, gave the full histories of two cases of this affection which he had an opportunity of noticing through a period of two years. In only one case was there a history of syphilis, but in both there was choroiditis with vitreous opacities. The gross changes of the choroid, which were found in only one case, did not correspond in any particular with the defect in the visual field. In one case the affection was monocular, there being iritis with adhesions in the other eye. In one case the trouble began as a typical right hæmianopsia, with left semi-annular scotoma. The central clear field, which was more or less oval in form, ten degrees by twenty degrees, was never throughout all the changes essentially diminished in size.

All writers on the subject (a full bibliography was appended to the paper) have placed the pathological process inside of the eye, though in no case were the choroidal changes, manifest under the ophthalmoscope, of a character to justify such a conclusion; and in none have the changes in the visual fields been followed so closely or for so long a time as in these cases; eighteen diagrams of the fields, taken at various times, being exhibited, the course of the nerve fibres in the tract, chiasma, and nerve, as demonstrated by Burrge, Bossius, Samelsohn, Leber, and others, particularly in the somewhat analogous condition of central scotoma; which, in nearly every instance, coincided with the central clear space in these cases, seems to justify the assumption that the fibres supplying the intermediate parts of the retina were hindered in their function, either by a localized neuritis or pressure from adjoining parts.

DR. H. D. NOYES, of New York, had habitually searched for this defect in cases of retinitis pigmentosa. He remembered finding it in one such case, which long remained stationary. Another was a case of a girl of seventeen, previously treated for refractive trouble, who came for pain and dimness of sight in one eye. There were no ophthalmoscopic changes, no local lesion, no brain trouble, or hysteria. Pressing the globe into the orbit caused pain. This was taken as evidence of an orbital neuritis. Complete recovery occurred in two weeks. If systematically looked for, this condition would probably be found to be more frequent than is now supposed.

DR. C. S. BULL reported the case of a man, aged thirty-six, who had fallen when two years old, injuring the right orbit; and again, seventeen years ago, injuring the left parietal region. The second injury had been followed by epileptic seizures which were becoming less frequent. Vision, R. E. counting fingers at two feet, L. E. $= \frac{20}{xx} +$ at the centre of the field. Within two years his condition remained the same.

DR. H. KNAPP had seen one case with neuro-retinitis and ring scotoma. The eye afterward became blind with glaucoma. There were no ophthalmoscopic appearances corresponding to the scotoma. In the other eye there was no change in the retinal pigment, no excavation of the disk, and no scotoma.

DR. W. F. MITTENDORF, of New York, had seen a case in an elderly gentleman with partial atrophy of the nerve. It extended from about five to fifteen degrees. There was no corresponding lesion of the fundus. The scotomata mentioned have been near the centre of the visual field. Recently attention has been called to the existence of ring scotoma near the periphery of the field in glaucoma; on searching for it he had found it once among five or six cases. There was no change in the ophthalmoscopic appearances of that part of the retina.

DR. O. F. WADSWORTH, of Boston, had reported a case affecting one eye, in a man aged twenty-five, who had been run over by a wagon. At first there was hemorrhage into the right eye and central scotoma. In a short time the hemorrhage cleared up, and the central became a ring scotoma, with central vision $= \frac{14}{x}$. The zone of blindness was about one and a half feet across at a distance of fourteen feet. This condition remained unchanged for at least two years.

THE SO-CALLED ORTHOPEDIC TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES.

DR. C. S. BULL, of New York, in view of the unsatisfactory results obtained by the use of drugs, and of electricity, had made trial of the method proposed by Prof. Michel; which consists in seizing the insertion of the muscle into the sclera, with a pair of forceps, and dragging the globe alternately in the direction in which the muscle should draw it and in the opposite direction. This was kept up for two minutes at a time, and the sittings repeated daily. Brief abstracts of twenty-one cases were presented with the results obtained. Most of these were palsies of the external rectus of syphilitic or rheumatic origin. The duration of the paralysis varied from a few days to years, some gave histories of previous attacks followed by complete recovery. This plan of treatment seemed to effect a complete cure in eight cases, notable improvement stopping short of complete recovery in six cases, while in seven it proved valueless. Most of the recoveries occurred in recent cases, although in some a cure was effected after the complete failure of drugs and electricity. Without the use of cocaine the pain caused by the operation was quite severe, and even with cocaine it was always entirely painless. Marked conjunctival irritation was caused by the pinching, but this was local and transient.

CASE OF RECURRENT PARALYSIS OF THE MOTOR OCULI.

DR. O. F. WADSWORTH, of Boston, reported the case of one of a pair of twins, sisters, born of healthy parents who had in all seven healthy children. In 1874 when three years old, both had scarlet fever and subsequently discharges from their ears. In 1877 the other twin had headaches and convulsions, and well-marked optic neuritis which passed into atrophy; later the headaches ceased and she continued well. The patient had in 1878 severe headache several hours every week. In 1879 she came for headache which had lasted two weeks of an intermittent character. It began about noon and continued until 3 P.M., then it would intermit until 5 P.M., when it would return and continue four or five hours. R.E. normal and emmetropic, L.E. highly myopic and amblyopic. In March, 1880, there were headache and vomiting and an attack of ptosis with divergence of the right eye. There was now acute inflammation of the left ear. The pain was always in the

right supraorbital region. In February, 1887, she was well, except attacks of headache with ptosis and dilated pupil, which occurred three or four times a year. She was now recovering from one of these, there being oculomotor paresis still present. The interval between the last attacks had been seven or eight months. Each attack was accompanied with a discharge of offensive fluid from the right ear which lasted some days.

March 4th there was much improvement. April 24th there remained slight ptosis, and impairment of upward and downward motion, pupil slightly dilated, and accommodation weak. A large polypus was found in the right ear, which would account for temporary retention of pus. Fifteen cases of this affection had been recorded, but often very imperfectly. The statement was often made, as by this patient, that during the intervals recovery was complete, but in none was it noted that the observer himself had seen such complete recovery. There was no instance of permanent relief; but three deaths. It was difficult to admit that this disease was purely functional or nuclear in its origin. Its origin from disease about the base of the brain was more probable, and this view was supported by autopsies.

LOCALIZED HYPERÆMIA IN MUSCULAR INSUFFICIENCY.

DR. J. A. LIPPINCOTT, of Pittsburg, had seen three cases in which the main complaint was of a congestion of the nasal side of the eyeball. Two of these he narrated. One in a colored barber, aged twenty-four. The congested area was sharply limited, had the form of a pterygium, extended nearly to the edge of the cornea, and involved both deep and superficial vessels, but principally the former. There was frontal headache, and fatigue on working or reading. This had lasted six weeks; and astringents had been used without benefit. The Gräfe test showed decided insufficiency of the internal recti muscles. Strychnia was ordered and in eight days the congestion had greatly diminished and the insufficiency was reduced to one-fourth its former amount. In four days more the equilibrium of the muscles was restored and the congestion and other symptoms had disappeared. The second case, a salesman, aged twenty-nine, came with similar congestion of the nasal side of the globe, of three weeks' standing. He had been reading a good deal at night. Here also there was insufficiency of the internal recti. He was directed to avoid unnecessary use of the eyes, get plenty of sleep, take strychnia, and douche the eyes with hot water twice daily. Following this line of treatment recovery was complete within a month.

DR. E. JACKSON had recently heard a paper read on base-ball pitcher's arm (see THE MEDICAL NEWS of July 16, 1887), in which it was urged that the disability of base-ball pitchers was caused by exaggeration of the hypernutrition which follows normal fatigue; and that the congestion involves not only the muscles, but their tendons and points of insertion as well. Might not the condition just described be exactly similar, an extension of congestion from the rectus involving the tendon and its insertion in the sclera, essentially a part of the lesion affecting the muscle, and not merely symptomatic?

CASES OF SPECIAL FORMS OF GLAUCOMA, WITH PHOTOMICROGRAPHS.

DR. WILLIAM F. NORRIS, of Philadelphia, reported three cases, and exhibited photomicrographs of the excised globes. The first was an acute inflammatory glaucoma, which yielded to a narrow iridectomy, which was afterward found not to involve the periphery of the iris, the eye remaining quiet for eight years. Then a second attack occurred. Iridectomy could not be performed for many days after the commencement of the attack, when a broad peripheral one was made. But the eye never became entirely quiet. Sclerotomy was subsequently done. Later, intraocular inflammation with hypopyon occurred, and the eye was enucleated; the other eye remaining quiet and serviceable. Section of the enucleated globe showed, in a cystoid cicatrix, the stump of the iris left at the original iridectomy. The scars left by the second iridectomy and the sclerotomy were firmly united. The microscopical examination showed a degeneration of the head of the optic nerve, probably a step toward excavation. There was also a marked proliferation of the neuroglia in the ciliary nerves where they passed through the sclera.

The second case occurred in a lady of seventy, under observation for hemorrhagic retinitis. There were some needles of opacity in each lens. V. = R. $\frac{10}{C}$, L. $\frac{20}{CXX}$. New hemorrhages occurred in the right eye; vision still further obscured, and the globe hard. An iridectomy was done, the anterior chamber filling with blood during the operation. On the fourth day, and again on the ninth, there occurred renewed attacks of pain and further impairment of vision, apparently due to intraocular hemorrhage; by the twenty-fourth day light-perception was lost. Three days later, an attempt was made to do a neurectomy on the eye; but there occurred such profuse hemorrhage into the capsule of Tenon that it became impossible to replace the globe, and it had to be enucleated. The left eye, which had regained V. = $\frac{20}{LXXX}$, slowly grew worse until the patient died, two years later, of apoplexy. The microphotograph showed hemorrhages into the retina, and also into the sclerotic near the canal of Schlemm. It was notable in this case that retinal hemorrhage was the immediate cause of the attack of glaucoma, and that hemorrhage into the capsule of Tenon prevented the completion of the neurectomy.

In the third case, a successful cataract extraction had been done ten years before; the patient being afterward able, with glasses, to do laboring work. After eighteen months, a needle operation was done on that eye, and from that time it refused to become quiet. Subsequently it became hard, and was enucleated for sympathetic irritation of its fellow. Each end of the scar of the periphero-linear incision presented a cystoid cicatrix.

The photomicrographs of these cases all showed the imperfect approximation of the lips of the wound from the overriding of the corneal flap, An examination of Becker's plates showed the same overriding in the majority of cases; in but two was the approximation nearly accurate, and in two the overlapping was the other way. This seemed to show the need for quiet of the eye and quiet of the patient until the corneal union was firm, after iridectomy or cataract extraction.

DR. H. D. NOYES said that in a case reported last year, dying on the fifth day, perfect approximation was prevented at one end of the incision by swelling of the scleral lip of the wound, which was double the thickness

of the corneal lip. Into the space so left the iris had been forced, thus illustrating the beginning of a cystoid cicatrix.

DR. H. KNAPP asked whether the swelling of the scleral lip might not be due to the previous incarceration of the iris in the wound.

DR. NOYES believed that the use of the spatula in dressing the wound had left it free from iris.

DR. B. A. RANDALL said that in Dr. Noyes's case the anterior chamber must have been obliterated and the posterior capsule pushed forward, for the sections showed pigment attached to the posterior capsule.

SARCOMA OF THE EYELID, SIMULATING MEIBOMIAN CYST.

DR. B. A. RANDALL, of Philadelphia, presented the notes of such a case occurring in a man of forty-one, who came under his care in 1885, with the history of two operations, in the three previous years, for the removal of a cyst. The tumor had the position, size, color, and apparent fluctuation of a chalazion; but a vague grayness suggested pigmentation, and led to its removal by a V-shaped incision through all the tissues of the lid. Section proved the tumor to be a solid encapsuled sarcoma of large spindle-cells. The patient passed out of sight for two years, and then returned with a recurrence very like the original, which had also been treated in the interim as a chalazion. The outer half of the lid had now to be removed, and the tumor was found to be of the same nature as before, and again encapsuled. The Meibomian glands each time seemed normal, and the tarsus was entirely uninvolved.

SOME CASES OF CILIO-RETINAL VESSELS.

DR. B. A. RANDALL also presented sketches of the ophthalmoscopic appearances in some cases of this anomaly, and showed a photomicrograph of such a case from the collection of Prof. Norris. He remarked that such cases are far from rare, and that the occurrence of such an origin of even a principal artery or vein, supplying sometimes two different quadrants of the retina, had come to notice. As to the origin of these vessels, in two cases they could be distinctly seen to join the network of the choroid. The reported cases, anatomically examined, had been seen to arise directly from the short ciliary arteries, as in the photomicrograph shown.

THE HOHLSCHNITT OF V. JÄGER IN THE EXTRACTION OF CATARACT.

DR. RANDALL called attention to this operation as differing from the modified linear extraction only in the knife with which it is executed. To this knife he asked attention, with the claim that with it almost all of the usual modifications of the linear extraction can be made; but that no aqueous need be lost until the completion of the incision, and that consequently the cut can be made more safely and smoothly than is possible with the Gräfe knife. As illustrative of the perfection of the healing, he demonstrated a photomicrograph of a *hohlschnitt* executed by v. Jäger himself, which he had cut in Prof. Arlt's laboratory, about a year after the operation.

DR. KNAPP had used Jäger's knife, but thought it harder to manage because of its greater size. With the Gräfe knife one can withdraw slightly and rectify any mistake in the position of the counter-puncture.

DR. H. D. NOYES agreed with the last speaker as to the superiority of the Gräfe knife. He had long practised a manœuvre, which he found Panas also employed; after making the counter-puncture, the handle is rather depressed, so as first to make the portion of the section adjacent to the counter-puncture. This quickly carries the cutting edge of the knife to the border of the anterior chamber, where the iris can no longer fall before it. Then the handle of the knife is raised as the section is completed.

DR. S. THEOBALD, of Baltimore, thought the greater convenience of the narrow knife due to the fact that with it we can first make the counter-puncture, and afterward complete the section; with the broad knife both must be done at once.

DR. RANDALL said that if the puncture is made right, with the knife in the proper position, the counter-puncture must of necessity be right also; and the incision made is perfectly smooth.

DR. KNAPP thought that a broad knife acts more as a chisel, tending to push the cornea before it.

DR. E. GRUENING was of the opinion that the difficulty about making a counter-puncture is that its location is not seen; and when an attempt is made to correct its position, aqueous escapes and the iris is apt to fall before the knife.

(To be concluded.)

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Long Branch, N. J, July 21, 22, and 23, 1887.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, JULY 20TH.—MORNING SESSION.

DR. CHARLES K. MILLS, of Philadelphia, the retiring President, in a few remarks presented DR. LANDON CARTER GRAY, of Brooklyn, the President-elect.

DR. E. C. SPITZKA, of New York, read a paper on

SOME POINTS REGARDING THERAPEUTICAL AND OTHER INJURIES OF THE BRAIN.

In the course of certain experimental injuries undertaken between eighteen and three months ago, he made some observations which appeared to be novel. The experiments varied from the excision of an entire hemisphere, simple trephining and the introduction of foreign substances into the arachnoid cavity, to the injection of substances into the brain tissue directly, into the ventricular cavities, and into the arachnoid sacs at the base of the brain. Trephining necessarily preceded the introduction of the hypodermatic needles in the latter instances. He witnessed in one instance an extensive operative exposure of the human brain, and made the post-mortem analysis in two cases where operations had been attempted or made in accordance with the modern teaching of cerebral surgery. The results to which he especially directed attention, are those relating to the healing of wounds made by hypodermatic needles and trocars.

He held that in young persons, even under discouraging circumstances, as wounding of the dura by the saw, the dura makes successful efforts to agglutinate the removed button and restore the integrity of the calva-

rium. In connection with a number of cases where trephining was practised, he had found that the larger the opening the less is the probability of protrusion of the brain.

The observations made with hypodermatic and other needles on the brains of dogs, relate to these points.

First to the formation of cerebral abscesses at points remote from the point of injection of septic material. His experience with animals would seem to indicate an enormous individual difference. On the one hand, coarse needles have been inserted, coarse substances injected, the animal killed after a month, and not the slightest trace of the channel or the point of penetration found. On the other hand, comparatively innocuous substances have been injected with fine needles, and, the animal being killed after a year, the tract of the needle found as fresh as if it had been made a few hours before.

From his limited experience with the human subject and observations in experimental pathology, he drew the following conclusions:

1st. That exploratory needles should never be introduced into the internal capsule, the contiguous ganglia or lateral ventricles, merely for exploratory purposes unaided by positive clinical indications of the location of disease.

2d. That exposures of large surfaces of the brain are not feasible in persons with feeble vascular walls, owing to the dangers of intracranial hemorrhage.

3d. That buttons which have been reinserted under aseptic precautions are, even in the event of non-union, entirely harmless.

4th. That in young persons buttons of bone may become reunited to the calvarium even though perfect coaptation be not assured.

He added that he has very recently experienced how desirable it is that in the event of trephining for the relief of cortical irritation, that on removal of the latter the button of bone be replaced.

DR. G. HAMMOND thought that in all cases of trephining the button of bone should be reinserted; and he quoted a successful case of Dr. Weir, in which a large piece of bone had been removed, and afterward reinserted with the most desirable results; the portion replaced having united firmly to the calvarium.

DR. LLOYD asked if Dr. Spitzka had ever punctured the brain of a child for hydrocephalus; as some time ago he had a patient brought to him for this purpose.

DR. MILLS thought it perfectly right in some cases to reinsert the button of bone, but, at the same time, the condition of the dura must guide us in the matter, as to the extent of inflammation exhibited; he quoted one case in which the piece of bone removed was three by four inches, but there was a central depression in the bone removed, and it was deemed necessary, in order to insert the bone, that this depressed portion be removed; the bone, however, was not replaced. In regard to the remark made by Dr. Spitzka, as to the animal brain being more resistant after surviving the first operation, that had been corroborated by his own experience. He mentioned a case in which the portion of bone removed was the largest he had ever seen, accompanied also with considerable loss of blood; the patient made a good recovery after the operation, but afterward died from pneumonia.

DR. SPITZKA said that in those cases in which it was not deemed advisable to reinsert the bone, he believed that the method of sprinkling the exposed surface of the dura with bone grafts was advisable, and he thought that even should a bone graft drop into the brain substance, it would do no harm, as the bone dust in trephining in some cases has caused no disturbance. As to the question asked by Dr. Lloyd as to puncture of the brain for hydrocephalus, he would not hesitate to insert a large trocar into the brain substance, although he had not performed the operation, he had seen Dr. Detmold do it, and he had himself tapped large tumors of the brain with the most satisfactory results.

DR. JAMES J. PUTNAM, of Boston, presented the

NOTES OF A RARE CASE OF DYSTROPHY OF THE FACE AND HEAD.

The case was one probably of hyperostosis of the cranium, occurring in a young woman twenty-one years of age. Her health was apparently good, and there was no history of syphilis; her mother, however, suffered with her head. The first symptoms were severe, and intense pains in her head, enlargement and protrusion of the eye were first noticed about two years after the beginning of the headache. Three years ago her teeth began to fall out, and at the time he saw her she had but one remaining tooth. Two years since, a purulent discharge from the ears appeared, and she could not distinguish the sound of a tuning-fork. Two years after the onset of the symptoms she had a miscarriage, and one year later menstruation ceased. There was œdema of the left eyelid, the eyes were extremely protruded, so that more than half the globe projected; there was no evidence of any paralysis of the nerves, except that the tongue moved slightly to one side. There was a well defined opacity in the upper cortical lens of the left eye, which may be of importance.

DR. PUTNAM then made a few remarks upon a case of

SARCOMATOUS TUMOR OF THE BRAIN

attached to the sphenoid bone. The patient had had attacks of periodical headache eighteen months previously, which he thought might be ascribed to this cause. During the time he had seen her she suffered from intense headache and neuritis, and then eventually a slight degree of facial paralysis on the opposite side; in the last two months she had complained of the two middle fingers of the left hand on the side of the tumor. At the autopsy the brain exhibited a shining black mass, representing a flattened tumor. This contained blood with a small number of cysts, and in spite of the remarkable pressure they produced, no distinctive symptoms presented themselves until within the last two months. It is an interesting surgical question as to whether in this case an exploratory operation would not have been justifiable.

DR. SPITZKA remarked that in one case where the numbness occurred in the fingers as mentioned by Dr. Putnam, a tumor had been discovered in the brachial region.

DR. PUTNAM said the autopsy was confined to the head alone. He thought Dr. Spitzka's remark just; as he could call to mind a case in which a tumor of the brain was pressing on both hemispheres and which presented no symptoms but pain and numbness in one

wrist; but in the case first mentioned the pain was not in the ulnar nerve, it was only in the two middle fingers. He said that Charcot had noted the same thing many years ago.

AFTERNOON SESSION.

DR. C. L. DANA, of New York, read a paper on

HEREDITARY TREMOR.

DRS. PUTNAM and DERCUM mentioned cases coming under their notice with the same symptoms described.

DR. HAMMOND asked Dr. Dana if he considered this the only form of hereditary tremor, he remembered a case in which the patient could not sit in a chair; his affection was similar to chorea in its manifestations. He could only trace it back to the mother in this instance, his brother and sister had it, and also a niece, it did not appear in this man until he was thirty-five years old, and toward the end of his days mental failure, delusions, hallucinations, etc., set in.

DR. DANA replied that the tremor he had described in his paper was by no means rare and he was surprised that it was not mentioned in our literature.

DR. GEORGE W. JACOBY, of New York, read a paper on

MICROSCOPICAL STUDIES IN A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS.

From his investigations, if he might draw conclusions without at the same time generalizing, he should in a measure differ from some observers, being convinced that in many patients the disease is essentially a chronic inflammation invading both the perineurium and the muscle tissue. He considered it impossible to say what the cause of this process might be unless sought for in a congenital malformation of the muscle tissue itself, such malformation being indicated by the small size of the sarcous elements, as we are accustomed to see them in the earliest stage of embryonal development.

But, however this might be, the pathological process consists of a gradual reduction of the muscle fibres into medullary or inflammatory corpuscles, which, in turn, go to build, partly fibrous, partly cartilaginous, and partly fat connective tissue. The process, which is extremely slow, gradually leads to an augmentation of myxomatous or other varieties of connective tissue at the expense of the muscle tissue. He placed the whole process, as seen in his specimens, in the same category with the process termed myositis ossificans progressiva; had he to describe it in a few words he would call it a *myositis progressiva hyperplastica.*

DR. DERCUM stated that he had examined some typical cases last fall occurring in the adult. Also a case in which there were some signs of inflammatory changes in the corpuscles and connective tissue element, in these cases there was a myositis, interstitial myositis, but whether it was secondary to the myositis proper it was difficult to say.

DR. SACHS, of New York, presented a paper on

ARRESTED CEREBRAL DEVELOPMENT WITH SPECIAL REFERENCE TO ITS PATHOLOGY.

He reported a case of a child which was perfectly formed in its limbs; before birth, however, the mother was thrown from a carriage. There were symptoms also of mental weakness on the side of the parents. The child would lie on its back and never attempt voluntary movement; objects placed in its hands would fall out; as it grew mental vigor did not increase, and finally total blindness set in. The child never uttered a sound except a low gurgling noise if left alone. There was no rachitis, no history of syphilis, and the child finally died from pneumonia. At the post-mortem the skull was found to be thickened and a large clot in the longitudinal sinus, the brain weighed two pounds, and the bloodvessels appeared to be normal.

DR. AMIDON had seen two cases very much like this in which there was no lesion apparent, but there were signs that hemorrhage had occurred some time before. He thought hemorrhage might occur without leaving any trace at the autopsy, and he asked Dr. Sachs whether it occurred to him that it might have been the same in his case.

DR. SACHS thought that if hemorrhage had occurred there would be thickening of the cortex. The child at birth was brighter than later on in life. He did not think the condition was owing to traumatism, but rather that the general circulation and nutrition had been disturbed.

(To be continued.)

CORRESPONDENCE.

THE NEW YORK STATE BOARD OF MEDICAL EXAMINERS.

To the Editor of THE MEDICAL NEWS.

SIR: A law of 1874 established for the State of New York a State Board of Medical Examiners. Frequent deaths and occasional resignations changed its original membership several times, until, upon the recommendation of the undersigned (who therefore objected repeatedly to his own appointment) and for reasons easily understood, all the members of the present Board, with one exception, were selected by the Honorable the Board of Regents of the University of the State of New York, from amongst the medical men of Albany, the seat of the government and the Board of Regents.

The profession never expected the law as it was passed in 1874 to be efficient. It was believed by many that some of the medical colleges objected to the establishment of a State Board altogether, though others were known to favor it. It was certain that sectarian influences succeeded in undermining the passage of the original bill and emasculating it. *It is certain* that no State Board of Examiners will ever benefit either the profession or the public, both of which stand in equal need of it, before the license to practise medicine will depend on the *compulsory* passing of a successful examination before the State Board. As the law stood, nobody ever applied for examination and the degree of M.D. of the University of the State of New York, who was in the possession of a diploma from a college in good standing. Such few as volunteered to come forward, were men who had previously failed in their college examination, or "practised medicine" without study, knowledge, or any title whatsoever. There being no rules and regulations referring to a minimum of accomplishments or requirements, a few of these were let loose upon the unsuspecting public with a diploma; the majority, however, failed.

When the new Board was appointed in the beginning

of this year, its members accepted their positions upon the condition that the Board of Regents would authorize a number of rules and principles which were to regulate the examinations, and the granting of degrees. As they have been approved by the Regents, I am directed by the Board of Examiners to present them to you for your information, and, if you deem proper, for publication and comment. We know quite well that, as long as the examination by the State Board is not made *compulsory*, any number of rules and principles will prove their inadequacy and inefficacy again and again. But the present Board hopes that its earnest recognition of the rights and dignity of medical science, art, and practice will be admitted by, and found acceptable to the profession, and that the latter, after a minimum of requirements for the admission into the ranks of the profession has been officially accepted by the Regents, will feel encouraged to continue its exertions in behalf of both the elevation of the standard of medical education and the protection of the public.

Not one of the recent applicants for a degree has proved successful. One of them had failed in his college examination a few weeks previously, and now threatens to swell the number of graduates of the "University" of a neighboring State.

Very respectfully,

A. JACOBI, M.D.

110 WEST 34TH ST., NEW YORK,
July 25, 1887.

Rules for Examination.

The members of the State Board of Medical Examiners accept their positions with this understanding:

A candidate for the degree of Doctor of Medicine to be given by the Board of Regents, either desires an additional degree after he has received his diploma from a chartered medical college, or he has no diploma from any chartered medical college, and desires or prefers one from the Board of Regents. The degree given by the Board of Regents is to be, or become, an honorable distinction. It must be the object of the law to protect the people and to ennoble the medical profession, and not to facilitate the entrance into it of persons unfit or unqualified. The profession does not require larger numbers, but does insist upon an elevated standard. Therefore the examination must be strict, and must be conducted according to the following rules:

1st. The examinations before this Board shall be conducted in the English language exclusively.

2d. The candidate shall be allowed two and a half hours for each examination. The examination shall be in writing. The candidate must not consult books, extracts, notes, or persons, and must not communicate with any one during the two and a half hours allotted to him. To do so is to be considered a failure to pass.

3d. The examination in clinical medicine and in clinical surgery shall consist in the actual examination of patients by the candidate, and a discussion in regard to the diagnosis, prognosis, and treatment of the cases.

4th. The examination in chemistry shall include the actual testing of a specimen of urine, in regard to its reaction, specific gravity, and the presence or absence of albumen and sugar.

5th. Each Examiner shall have the privilege, if he so desire, of supplementing his written examination by an oral one, in the presence of two other members of the Examining Board.

6th. The scale of marks shall be from zero to ten; ten being perfection, and anything below six being a failure to pass the examination.

7th. The questions and answers with their marks shall remain in the possession of the Board of Regents, and shall be open to inspection.

8th. When the candidate shall have completed all his examinations, the Board of Examiners shall meet and hear the result of the examination in each branch. And within ten days thereafter, each member of the Board shall make a written report as to the merits and acquirements of the candidate; being guided in this report, not alone by the result of the examination in his particular branch, but also by the result of the examinations in the other branches. And each member of the Board shall send his report, together with the questions and their answers and their marks in his branch, to the Secretary of the Board of Examiners; to be by him transmitted to the Secretary of the Board of Regents.

And furthermore it is the opinion of the Board of Examiners: that in order to receive the degree of Doctor of Medicine, the candidate should successfully pass in every branch; or at least in every branch but one.

State Board of Medical Examiners.

President, Abraham Jacobi, M.D., Examiner in Pathology.

Vice-President, Albert Vanderveer, M.D., Examiner in Surgery, and Clinical Surgery.

Secretary.—Henry Hun, M.D., Examiner in Clinical Medicine, and in Materia Medica and Therapeutics.

James P. Boyd, M.D., Examiner in Obstetrics.
Franklin Townsend, M.D., Examiner in Physiology.
Samuel R. Morrow, M.D., Examiner in Anatomy.
William Hailes, Jr., M.D., Examiner in Histology.
Willis G. Tucker, M.D., Examiner in Chemistry.

NEWS ITEMS.

NOVA SCOTIA MEDICAL ASSOCIATION.—The nineteenth annual meeting of this Association was held at Truro, N. S., beginning July 6, 1887.

The following officers were elected for the ensuing year:

President.—Dr. William McKay, M.P.P., of Reserve Mines.

Vice-Presidents.—Drs. D. A. Campbell, of Halifax, and W. B. Moore, of Kentville.

Secretary and Treasurer.—Dr. W. S. Muir, of Truro.

Digby was chosen as the place of meeting next year.

GASEOUS ENEMATA IN BELLEVUE HOSPITAL.—The use of these enemata has been entirely abandoned in the fourth division, Bellevue Hospital, where they have been earliest and longest tried.

A SANITARY CONGRESS IN SOUTH AMERICA.—The Peruvian government has invited the republics of Central and South America to coöperate in the formation of a sanitary congress to be held at Lima, November 1st.

It is a significant sign that these governments, so sorely tried by the hardships accompanying contagious diseases, are at last awakening to the importance of undertaking preventive measures.

FREE COMPETITION FOR POSITIONS IN THE HOSPITALS OF NEW ORLEANS.—Dr. Joseph Jones, of New Orleans, introduced at the recent meeting of the Louisiana State Medical Society, a resolution calling upon the Legislature to repeal the law of 1885 excluding all medical students from competition for the position of resident students of the Charity Hospital, except native and residents of Louisiana.

AN HONOR DECLINED.—PROFESSOR GAIRDNER, of Glasgow, has declined the honor of knighthood offered him on the occasion of the recent jubilee of the Queen.

BROMIDIA.—The United States Circuit Court has granted a perpetual injunction restraining the publication of a formula for a liquid medical preparation under the name "bromidia," unless there is also published, in connection with the said words "bromidia," or "bromidio," a statement that the preparation covered by the said receipt is put up and sold by Battle & Co., of St. Louis, under the trade-mark "Bromidia."

LEAD POISONING FROM HATBANDS.—Dr. Joseph F. Gerster, in the *American Grocer*, describes a case of poisoning from wearing a hat with sweat-bands colored with lead. The chief symptom was headache. It is not uncommon to use lead in preparing the leather for sweat-bands, but there is rarely any dangerous amount.

ANALYSES OF MILK SOLD IN NEW YORK.—The *World's* analyses of milk sold in New York City and consumed by the defenceless babies of the metropolis, shows over one-quarter of the samples examined to have been skimmed or watered. The advisability of permitting skimmed milk to be sold if the receptacles from which it is sold are marked to that effect, has been discussed freely, but the board of health is of the opinion that its sale should be entirely prohibited. The sale of milk is one of the most perplexing things to control which a board of health is compelled to meet. Its sale is carried on by such a multitude of people for a short portion of the day only, and it is delivered in such small lots that interference with it can be but infinitesimal at best. Dealers should be taught to look for inspection any time, and caused to fear the subsequent publicity which should follow detection. In that way the fraudulent substitution of skimmed milk for milk of legal standard may be lessened. Another good plan would be for every purchaser to inform his milkman that it is proposed to have a sample of the milk submitted to the health authorities for examination. This would put the dealer in the way of delivering a better article.—*Sanitary News*, July 9, 1887.

IN MEMORY OF DR. J. C. HUTCHISON.—At a special meeting of the Board of Managers of the Alumni Association of the Long Island College Hospital, held July 20, 1887, convened to take action in the matter of the death of Joseph C. Hutchison, M.D., LL.D., late president of the Collegiate Department, the following preamble and resolutions were adopted.

Whereas, In the death of Joseph C. Hutchison the College has lost an able worker, in his recent official capacity, and one to whom it was indebted for a more active part in the past as professor of surgery, and believing the reputation and honor of the institution rest in the hands of its teachers, it is

Resolved, That one who showed such boldness and fidelity in defending its best interests, is worthy the highest praise and respect of this Association.

Resolved, That the Association extends its heartfelt sympathy to the family of the late Dr. Hutchison, and its condolence to the Board of Regents of the Long Island College in this our common affliction.

Resolved, That a copy of these resolutions be sent to the family of Dr. Hutchison, the Board of Regents, and the press.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JULY 19 TO JULY 25, 1887.

HEGER, A., *Lieutenant-Colonel and Surgeon.*—Assigned to duty as member of the Army Retiring Board, convened at Governor's Island, New York Harbor, N. Y., vice Colonel Charles Sutherland, Surgeon, hereby relieved.—*S. O. 167*, par. 13, *A. G. O.*, July 21, 1887.

By *S. O. 162*, par. 43, *A. G.O.*, July 15, 1887, so much of par. 1, *S. O. 156, c. s., A.G. O.*, as directs *Captain and Assistant Surgeon* JOHN DE B. W. GARDINER, U. S. Army, to report for duty at Fort Washakie, Wyoming, is revoked.

COWDREY, S. G., *Captain and Assistant Surgeon.*—Granted one month's leave, to take effect on or about July 24th.—*S. O. 79, Department of Texas*, July 13, 1887.

BARNETT, R., *Captain and Assistant Surgeon.*—Sick leave still further extended six months, on account of sickness.—*S. O. 162, A. G. O.*, July 15, 1887.

By *S. O. 162*, par. 43, *A. G. O.*, July 15, 1887, so much of *S. O. 156, s. c.*, par. 1, *A. G. O.*, as relieves *Captain and Assistant Surgeon* GEORGE H. TOMEY, U. S. Army, from duty at Fort Monroe, Virginia, is revoked.

TAYLOR, A. W., *Captain and Assistant Surgeon.*—Now at Fort Laramie, Wyoming, is ordered for temporary duty at Fort Robinson, Nebraska.—*S. O. 162, A. G. O.*, July 15, 1887.

BLACK, C. S., *First Lieutenant and Assistant Surgeon.*—Ordered for duty as Post Surgeon. Fort Bliss, Texas, during the absence on leave of Captain S. G. Cowdrey, Assistant Surgeon.—*S. O. 79, Department of Texas*, July 13, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 23, 1887.

FESSENDEN, C. S. D., *Surgeon.*—Granted leave of absence for thirty days, on account of sickness, July 18, 1887.

MEAD, F. W., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, July 19, 1887.

YEMANS, H. W., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, July 23, 1887.

BROOKS, S. D., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon from July 1, 1887. July 21, 1887.

WHITE, J. H., *Assistant Surgeon.*—To proceed to Washington, D. C., as escort to an insane seaman, July 18, 1887. Ordered to examination for promotion, July 23, 1887.

WATKINS, R. B., *Assistant Surgeon.*—Leave extended fourteen days, on account of sickness, July 20, 1887.

MAGRUDER, G. M., *Assistant Surgeon.*—To proceed to Galveston, Texas, for temporary duty, July 21, 1887.